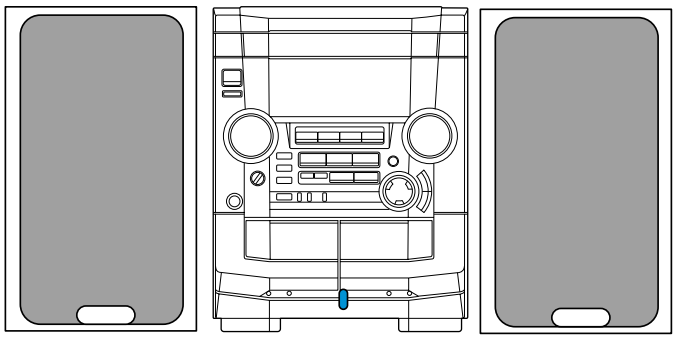
aiwa SERVICE

NSX-AJ50 U
NSX-SZ50 LH



SERVICE MANUAL

COMPACT DISC STEREO SYSTEM

BASIC TAPE MECHANISM : ZZM-3 PR1NM
2ZM-3MK2 PR4NM
BASIC CD MECHANISM : AZG-1 ZD8RDM

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-AJ50	CX-NAJ50	SX-WNAJ50	RC-ZAS02
NSX-SZ50	CX-NSZ50	SX-WNSZ50	RC-ZAS01

• If requiring information about the CD mechanism, see Service Manual of AZG-1, (S/M Code No. 09-001-335-3N6).

aiwa

S/M Code No. 09-003-424-6R1

SPECIFICATIONS

Main unit CX-NAJ50(U)/CX-NSZ50(LH)

<FM tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<AM (MW) tuner section>

Tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<Amplifier section>

Mid-high frequency amplifier

Power output	U : 20 W + 20 W (200 Hz to 20 kHz, T.H.D. less than 1 %, 8 ohms) LH : Rated : 20 W + 20 W (8 ohms, T.H.D. 1 %, 1 kHz) Reference : 25 W + 25 W (8 ohms, T.H.D. 10 %, 1 kHz)
Total harmonic distortion	0.1 % (10W, 1 kHz, 8 ohms, DIN AUDIO)

Low frequency amplifier

Power output	U : 60 W + 60 W (50 Hz to 200Hz, T.H.D. less than 1 %, 6 ohms) LH : Rated : 60 W + 60 W (6 ohms, T.H.D. 1 %, 130 Hz) Reference : 75 W + 75 W (6 ohms, T.H.D. 10 %, 130 Hz)
Total harmonic distortion	0.1 % (30W, 130 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO / AUX: 500 mV LH : MIC 1.0mV(10 K ohms)
Outputs	SPEAKERS HIGH FREQ: accept speakers of 8 ohms or more SPEAKERS LOW FREQ: accept speakers of 6 ohms or more U : SURROUND SPEAKERS: accept speakers of 8 ohms to 16 ohms PHONES (stereo jack): accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	50 Hz – 16000 Hz
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 Deck 2 : Recording / Playback head x 1, erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ = 780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)

<General>

Power requirements	U : 120 V AC, 60 Hz LH : 120V/220 – 230V/240V AC switchable, 50/60 Hz
Power consumption	U : 110 W LH : 130 W
Standby power consumption	20 W (power-economizing mode set to OFF) 0.9 W (power-economizing mode set to ON)
Dimensions of main unit (W x H x D)	U : 240 x 324.6 x 271 mm ($9^1/_2$ x $12^7/_8$ x $10^3/_4$ in.) LH : 260 x 326 x 345 mm
Weight of main unit	U : 8.0 kg (17 lbs 10 oz.) LH : 9.0 kg

Speaker system SX-WNAJ50(U)/SX-WNSZ50(LH)

Speaker system	3 way, bass reflex (magnetic shielded type)
Speaker units	Subwoofer : 160 mm($6^3/_8$ in.) cone type Full range : 100 mm(4 in.) cone type Super tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type
Impedance	6 ohms/8 ohms
Sensitvity	86 dB/W/m
Dimensions (W x H x D)	240 x 324 x 271 mm ($9^1/_2$ in. x $12^7/_8$ x $10^3/_4$ in.)
Weight	4.8 kg (10 lbs 9 oz.)

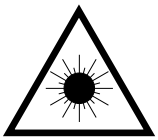
• Design and specifications are subject to change without notice.

• The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
Under license from BBE Sound,Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

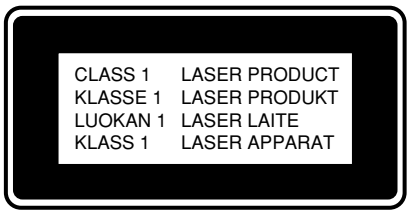
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

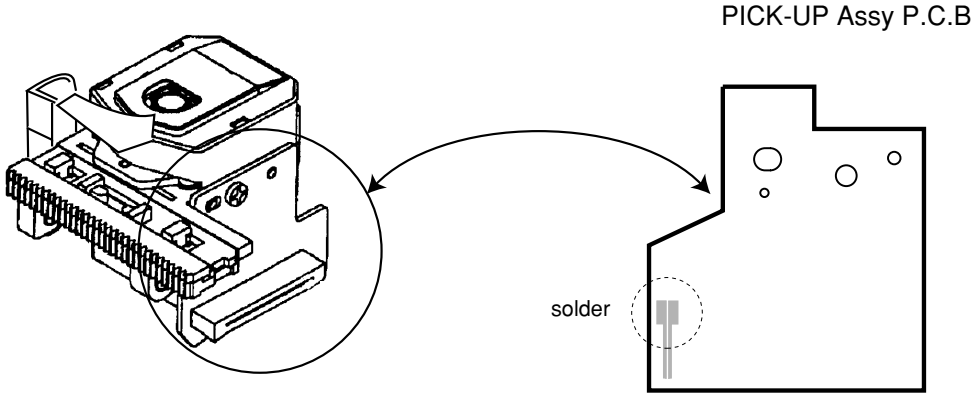
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block (KSM-880CAB)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, secondary defect can occur.
In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

① Remove the AC power cord.
② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
⑤ Check that voltage across C101 and C102 has decreased to 1 V or less using a multimeter or an oscilloscope.

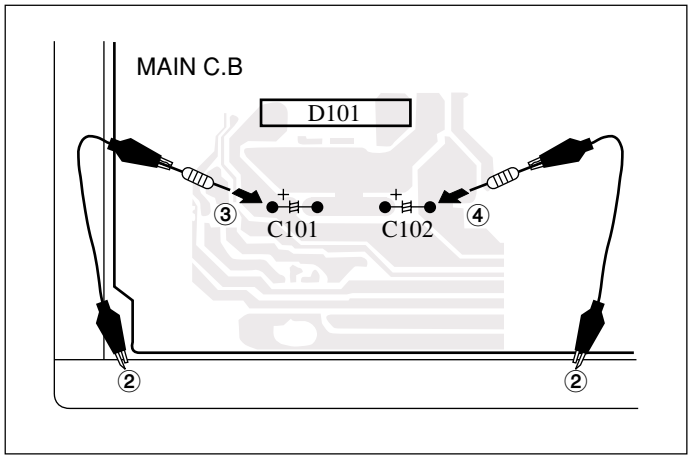


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is "H", the MICROCOMPUTER is judged to be operating correctly. When this terminal is "L", the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.
When the MICROCOMPUTER is not defective, the HOLD terminal can also go "L" when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to "L".

- Good or no good judgement of the MICROCOMPUTER

① Turn on the AC main power.
② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the "H" level or not.
③ When the HOLD terminal is "L" level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

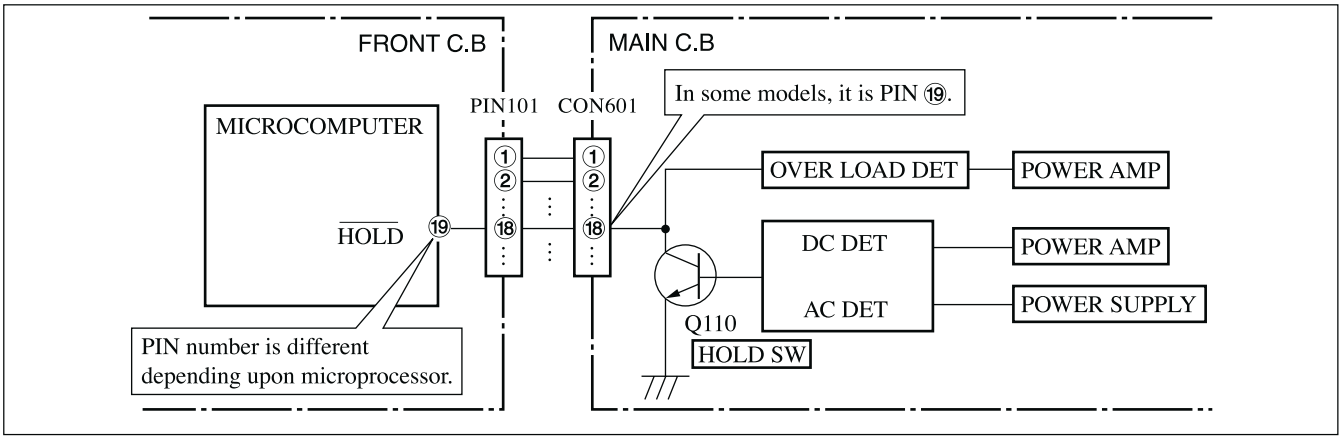


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can lead to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

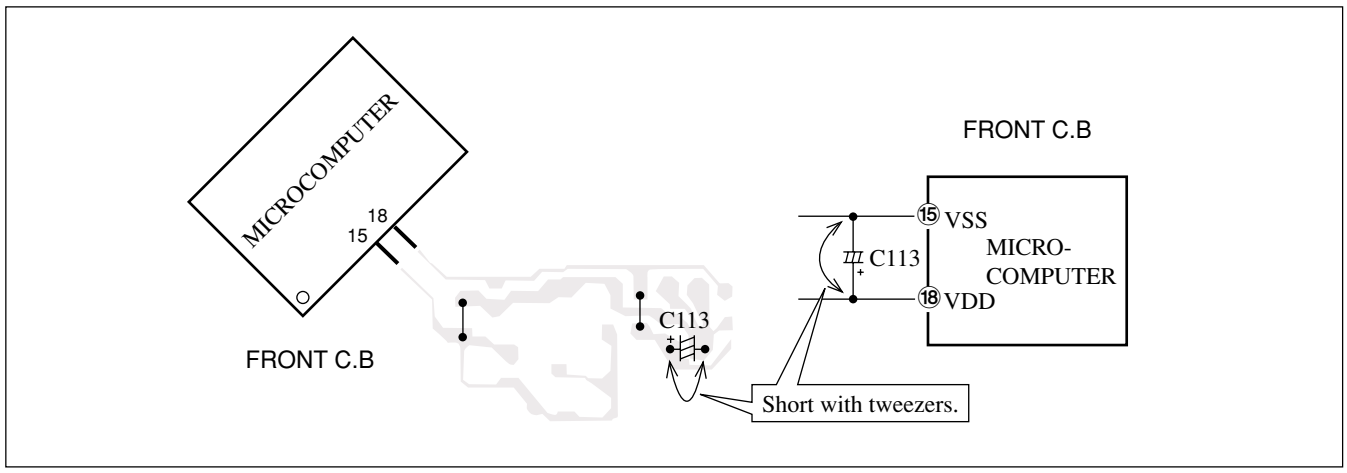


Fig-2-2

② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-417-010		IC,STK490-310
	8A-NF8-610-010		C-IC,LC866548V-5P03
	87-A21-396-010		IC,STK490-040
	87-A21-482-010		IC,RPM6938-H4
	87-A21-419-040		IC,NJM14558MD-TE2
	87-A21-023-040		C-IC,BA3835F
	87-A21-401-040		C-IC,M61503FP
	87-070-289-040		IC,BU 2092F
	87-070-127-110		IC,LC72131 D
	87-A21-415-010		IC,LA1843
	87-A21-269-010		IC,EW732<U>
	87-020-454-010		IC,DN6851<LH>
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR
	89-213-702-010		TR,2SB1370 (1.8W)
	87-026-610-080		TR,KTC3198GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
	87-026-245-080		TR,DTC114ES
	87-A30-198-080		TR,KTC3199GR
	87-A30-107-070		C-TR,CMBT5401
	87-A30-106-040		C-TR,CMBT5551
	87-A30-087-080		C-FET,2SK2158
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-091-080		FET,2SJ460
	87-A30-318-080		TR,CSA952K
	87-A30-090-080		FET,2SK2541
	87-A30-329-080		TR,CD1585BC
	87-A30-104-080		C-TR,RT1N 441C
	87-A30-073-080		C-TR,RT1N 141C
	89-333-317-880		TR,2SC3331 (0.5W)
	87-A30-269-040		C-FET,2SJ461-T1
	89-327-143-080		C-TR,2SC2714O (0.1W)
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-234-080		TR,CSC4115BC
DIODE			
	87-A40-393-090		DIODE,1N5402GW(F20)
	87-A40-736-080		DIODE,1N4148M(SEM)
	87-A40-548-090		DIODE,D3SBA20<U>
	87-A40-547-090		DIODE,D5SBA20<LH>
	87-A40-455-080		DIODE,RL203 GW
	87-A40-553-080		DIODE,1N4003 LES
	87-A40-776-080		ZENER,UZ27BSD
	87-A40-764-080		ZENER,UZ10BSC
	87-A40-313-080		C-DIODE,MC 2840
	87-A40-270-080		C-DIODE,MC2838
	87-A40-269-080		C-DIODE,MC2836
	87-A40-768-080		ZENER,UZ16BSA
	87-A40-752-080		ZENER,UZ6.2BSC
	87-A40-802-080		ZENER,UZ5.1BSC
	87-A40-739-080		ZENER,UZ2.7BSA
	87-017-149-080		ZENER,HZS6A2L
MAIN C.B			
C3	87-012-368-080		C-CAP,S 0.1-50 F
C4	87-012-368-080		C-CAP,S 0.1-50 F
C5	87-012-368-080		C-CAP,S 0.1-50 F
C6	87-012-368-080		C-CAP,S 0.1-50 F
C9	87-012-368-080		C-CAP,S 0.1-50 F
C10	87-012-368-080		C-CAP,S 0.1-50 F
C11	87-012-368-080		C-CAP,S 0.1-50 F
C12	87-012-368-080		C-CAP,S 0.1-50 F
C15	87-012-368-080		C-CAP,S 0.1-50 F
C16	87-012-368-080		C-CAP,S 0.1-50 F
C17	87-012-368-080		C-CAP,S 0.1-50 F
C18	87-012-368-080		C-CAP,S 0.1-50 F
C19	87-016-520-000		CAP,E 3300-65 M SMG
C20	87-016-520-000		CAP,E 3300-65 M SMG
C21	87-016-051-000		CAP,E 2200-35 M SMG
C22	87-016-051-000		CAP,E 2200-35 M SMG
C23	87-016-658-000		CAP,E 4700-35 M SMG
C24	87-016-658-000		CAP,E 4700-35 M SMG
C25	87-010-408-080		CAP, ELECT 47-50V
C26	87-010-247-080		CAP, ELECT 100-50V
C30	87-010-430-080		CAP, ELECT 100-63
C31	87-010-263-080		CAP, ELECT 100-10V
C32	87-010-197-080		CAP, CHIP 0.01 DM
C33	87-010-263-080		CAP, ELECT 100-10V<U>
C34	87-010-260-080		CAP, ELECT 47-25V
C35	87-015-682-080		CAP,E 22-16 7L
C36	87-010-381-080		CAP, ELECT 330-16V
C38	87-010-197-080		CAP, CHIP 0.01 DM
C60	87-010-403-080		CAP, ELECT 3.3-50V
C61	87-010-260-080		CAP, ELECT 47-25V
C101	87-010-183-080		C-CAP,S 2700P-50 B
C102	87-010-183-080		C-CAP,S 2700P-50 B
C103	87-010-545-080		CAP, ELECT 0.22-50V
C104	87-010-545-080		CAP, ELECT 0.22-50V
C107	87-010-405-080		CAP, ELECT 10-50V
C108	87-010-405-080		CAP, ELECT 10-50V
C111	87-010-405-080		CAP, ELECT 10-50V
C112	87-010-405-080		CAP, ELECT 10-50V
C113	87-010-866-080		CAP, ELECT 10-63
C114	87-010-866-080		CAP, ELECT 10-63
C119	87-010-197-080		CAP, CHIP 0.01 DM
C120	87-010-197-080		CAP, CHIP 0.01 DM
C125	87-012-368-080		C-CAP,S 0.1-50 F
C126	87-012-368-080		C-CAP,S 0.1-50 F
C127	87-012-368-080		C-CAP,S 0.1-50 F
C128	87-012-368-080		C-CAP,S 0.1-50 F
C133	87-010-186-080		CAP,CHIP 4700P
C140	87-010-182-080		C-CAP,S 2200P-50 B
C141	87-010-196-080		CHIP CAPACITOR,0.1-25
C203	87-010-182-080		C-CAP,S 2200P-50 B
C204	87-010-182-080		C-CAP,S 2200P-50 B
C209	87-010-402-080		CAP, ELECT 2.2-50V
C210	87-010-402-080		CAP, ELECT 2.2-50V
C211	87-010-184-080		CHIP CAPACITOR 3300P(K)
C212	87-010-184-080		CHIP CAPACITOR 3300P(K)
C213	87-010-402-080		CAP, ELECT 2.2-50V
C214	87-010-402-080		CAP, ELECT 2.2-50V
C217	87-010-405-080		CAP, ELECT 10-50V
C218	87-010-405-080		CAP, ELECT 10-50V
C220	87-010-405-080		CAP, ELECT 10-50V
C223	87-010-190-080		S CHIP F 0.01
C224	87-010-190-080		S CHIP F 0.01
C228	87-010-405-080		CAP, ELECT 10-50V
C229	87-010-993-080		C-CAP,S 0.056-25 B
C230	87-010-993-080		C-CAP,S 0.056-25 B
C231	87-010-196-080		CHIP CAPACITOR,0.1-25
C232	87-010-196-080		CHIP CAPACITOR,0.1-25
C239	87-010-196-080		CHIP CAPACITOR,0.1-25
C301	87-010-178-080		CHIP CAP 1000P
C302	87-010-178-080		CHIP CAP 1000P
C303	87-010-178-080		CHIP CAP 1000P
C304	87-010-178-080		CHIP CAP 1000P
C307	87-010-263-080		CAP, ELECT 100-10V
C308	87-010-263-080		CAP, ELECT 100-10V
C309	87-010-318-080		C-CAP,S 47P-50 CH
C310	87-010-318-080		C-CAP,S 47P-50 CH
C313	87-010-188-080		CAP,CHIP 6800P
C314	87-010-188-080		CAP,CHIP 6800P
C315	87-010-263-080		CAP, ELECT 100-10V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C317	87-010-546-080		CAP, ELECT 0.33-50V
C318	87-010-546-080		CAP, ELECT 0.33-50V
C326	87-010-198-080		CAP, CHIP 0.022
C327	87-012-368-080		C-CAP,S 0.1-50 F
C360	87-010-401-080		CAP, ELECT 1-50V
C399	87-012-140-080		CAP 470P
C401	87-010-544-080		CAP, ELECT 0.1-50V
C402	87-010-544-080		CAP, ELECT 0.1-50V
C403	87-010-321-080		CHIP CAPACITOR,82P(J)
C404	87-010-321-080		CHIP CAPACITOR,82P(J)
C405	87-010-197-080		CAP, CHIP 0.01 DM
C406	87-010-197-080		CAP, CHIP 0.01 DM
C407	87-010-197-080		CAP, CHIP 0.01 DM
C408	87-010-197-080		CAP, CHIP 0.01 DM
C409	87-010-182-080		C-CAP,S 2200P-50 B
C410	87-010-182-080		C-CAP,S 2200P-50 B
C411	87-010-405-080		CAP, ELECT 10-50V
C412	87-010-405-080		CAP, ELECT 10-50V
C452	87-010-382-080		CAP, ELECT 22-25V
C453	87-010-183-080		C-CAP,S 2700P-50 B
C454	87-010-183-080		C-CAP,S 2700P-50 B
C455	87-010-183-080		C-CAP,S 2700P-50 B
C456	87-010-197-080		CAP, CHIP 0.01 DM
C458	87-010-178-080		CHIP CAP 1000P
C459	87-010-175-080		CAP 560P
C460	87-010-196-080		CHIP CAPACITOR,0.1-25
C461	87-012-158-080		C-CAP,S 390P-50 CH
C462	87-012-158-080		C-CAP,S 390P-50 CH
C507	87-010-196-080		CHIP CAPACITOR,0.1-25
C508	87-010-178-080		CHIP CAP 1000P
C509	87-A10-300-080		CAP,M 0.027-50 J
C510	87-A10-300-080		CAP,M 0.027-50 J
C515	87-A10-300-080		CAP,M 0.027-50 J
C516	87-A10-300-080		CAP,M 0.027-50 J
C518	87-010-196-080		CHIP CAPACITOR,0.1-25
C519	87-010-546-080		CAP, ELECT 0.33-50V
C520	87-010-546-080		CAP, ELECT 0.33-50V
C521	87-010-546-080		CAP, ELECT 0.33-50V
C522	87-010-546-080		CAP, ELECT 0.33-50V
C523	87-010-545-080		CAP, ELECT 0.22-50V
C524	87-010-545-080		CAP, ELECT 0.22-50V
C525	87-010-545-080		CAP, ELECT 0.22-50V
C526	87-010-545-080		CAP, ELECT 0.22-50V
C605	87-010-179-080		CAP,CHIP S B1200P
C606	87-010-179-080		CAP,CHIP S B1200P
C609	87-010-213-080		C-CAP,S 0.015-50 B
C610	87-010-213-080		C-CAP,S 0.015-50 B
C611	87-010-545-080		CAP, ELECT 0.22-50V
C612	87-010-545-080		CAP, ELECT 0.22-50V
C613	87-010-545-080		CAP, ELECT 0.22-50V
C614	87-010-545-080		CAP, ELECT 0.22-50V
C615	87-010-154-080		CAP CHIP 10P
C616	87-010-385-080		CAP, ELECT 220-25V
C617	87-010-385-080		CAP, ELECT 220-25V
C618	87-010-405-080		CAP, ELECT 10-50V
C620	87-010-263-080		CAP, ELECT 100-10V
C630	87-016-669-080		C-CAP,S 0.1-25 K B
C631	87-010-185-080		C-CAP,S 3900P-50 B
C632	87-010-185-080		C-CAP,S 3900P-50 B
C633	87-016-369-080		C-CAP,S 0.033-25 B K
C634	87-016-369-080		C-CAP,S 0.033-25 B K
C671	87-010-196-080		CHIP CAPACITOR,0.1-25<LH>
C672	87-010-196-080		CHIP CAPACITOR,0.1-25<LH>
C673	87-010-182-080		C-CAP,S 2200P-50 B<LH>
C677	87-010-197-080		CAP, CHIP 0.01 DM
C678	87-010-197-080		CAP, CHIP 0.01 DM
C771	87-010-263-080		CAP, ELECT 100-10V
C772	87-010-197-080		CAP, CHIP 0.01 DM
C782	87-010-197-080		CAP, CHIP 0.01 DM
C783	87-010-197-080		CAP, CHIP 0.01 DM
C784	87-010-197-080		CAP, CHIP 0.01 DM
C785	87-010-197-080		CAP, CHIP 0.01 DM
C786	87-010-197-080		CAP, CHIP 0.01 DM
C788	87-010-149-080		C-CAP,S 5P-50 CH
C789	87-A12-052-080		C-CAP,S 0.033-25 J B
C790	87-A12-052-080		C-CAP,S 0.033-25 J B
C791	87-010-196-080		CHIP CAPACITOR,0.1-25
C792	87-010-197-080		CAP, CHIP 0.01 DM
C793	87-010-404-080		CAP, ELECT 4.7-50V
C795	87-010-197-080		CAP, CHIP 0.01 DM
C796	87-010-197-080		CAP, CHIP 0.01 DM
C797	87-010-405-080		CAP, ELECT 10-50V
C798	87-010-197-080		CAP, CHIP 0.01 DM
C799	87-010-407-080		CAP, ELECT 33-50V
C800	87-012-369-080		C-CAP,S 0.047-50F
C801	87-010-403-080		CAP, ELECT 3.3-50V
C802	87-010-194-080		CAP, CHIP 0.047
C803	87-010-198-080		CAP, CHIP 0.022
C804	87-010-263-080		CAP, ELECT 100-10V
C807	87-010-400-080		CAP, ELECT 0.47-50V
C808	87-010-401-080		CAP, ELECT 1-50V
C809	87-010-401-080		CAP, ELECT 1-50V
C810	87-010-196-080		CHIP CAPACITOR,0.1-25
C814	87-010-197-080		CAP, CHIP 0.01 DM
C815	87-010-403-080		CAP, ELECT 3.3-50V
C816	87-010-403-080		CAP, ELECT 3.3-50V
C821	87-010-405-080		CAP, ELECT 10-50V
C823	87-010-177-080		C-CAP,S 820P-50 SL
C824	87-010-405-080		CAP, ELECT 10-50V
C825	87-010-596-080		CAP, S 0.047-16
C842	87-010-197-080		CAP, CHIP 0.01 DM
C844	87-010-197-080		CAP, CHIP 0.01 DM
C850	87-010-408-080		CAP, ELECT 47-50V
C851	87-010-197-080		CAP, CHIP 0.01 DM
C852	87-010-197-080		CAP, CHIP 0.01 DM
C853	87-010-197-080		CAP, CHIP 0.01 DM
C858	87-010-196-080		CHIP CAPACITOR,0.1-25
C859	87-010-196-080		CHIP CAPACITOR,0.1-25
C860	87-010-197-080		CAP, CHIP 0.01 DM
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-010-152-080		C-CAP,S 8P-50 CH
C963	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C971	87-010-381-080		CAP, ELECT 330-16V
C972	87-010-404-080		CAP, ELECT 4.7-50V
C973	87-010-197-080		CAP, CHIP 0.01 DM
C974	87-010-197-080		CAP, CHIP 0.01 DM
C979	87-010-322-080		C-CAP,S 100P-50 CH
C981	87-010-260-080		CAP, ELECT 47-25V
C982	87-010-196-080		CHIP CAPACITOR,0.1-25
C983	87-010-197-080		CAP, CHIP 0.01 DM
C984	87-010-197-080		CAP, CHIP 0.01 DM
C987	87-010-197-080		CAP, CHIP 0.01 DM
C991	87-010-312-080		C-CAP,S 15P-50 CH
C992	87-010-312-080		C-CAP,S 15P-50 CH
C993	87-010-178-080		CHIP CAP 1000P
C995	87-010-178-080		CHIP CAP 1000P
C997	87-010-196-080		CHIP CAPACITOR,0.1-25
C998	87-010-260-080		CAP, ELECT 47-25V
C999	87-A11-132-080		CAP,TC U 0.01-50 K B
CF831	87-008-261-010		FILTER, SFE10.7MA5-A
CF832	87-008-261-010		FILTER, SFE10.7MA5-A
CN301	87-A60-620-010		CONN,3P V 2MM JMT
CN351	87-A60-625-010		CONN,8P V 2MM JMT
CN601	87-099-719-010		CONN,30P TYK-B(X)
CN602	87-A60-131-010		CONN,6P V FE
CNA1	8A-NF8-654-010		CONN ASSY,11P TID-A(480)
FFE831	A8-8ZA-190-030		8ZA-1 FEUNM
J202	87-A60-483-010		JACK,DIA6.3 BLK ST W/S KM
J203	87-A60-238-010		TERMINAL,SP 4P (MSC)

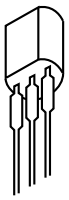
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
J204	87-A61-153-010		JACK,PIN 4P R/W(BL) (SEPA) KM<U>
J205	87-A61-157-010		JACK,PIN 2P R/W/BL V(SEPA) KM<LH>
J602	87-A60-881-010		JACK,PIN 2P MSP 242V05 PBSN
J831	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
L101	87-003-383-010		COIL,1UH-S
L102	87-003-383-010		COIL,1UH-S
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L451	87-007-342-010		COIL,OSC 85K BIAS
L801	87-A50-540-010		COIL,FM DET(TOK)
L802	87-A91-551-010		FLTR,PCFJZH-450 L(TOK)
L811	87-005-847-080		COIL,2.2UH(CECS)
L832	87-005-847-080		COIL,2.2UH(CECS)
L951	8A-NF8-667-010		COIL,AM PACK 4(TOK)
R129	87-A00-257-080		RES,M/F 0.15-1W J
R130	87-A00-257-080		RES,M/F 0.15-1W J
R143	87-A00-439-050		RES,180-1/2W J RP<U>
R143	87-A00-440-050		RES,220-1/2W J RP<LH>
R144	87-A00-439-050		RES,180-1/2W J RP<U>
R144	87-A00-440-050		RES,220-1/2W J RP<LH>
R145	87-A00-439-050		RES,180-1/2W J RP<U>
R145	87-A00-440-050		RES,220-1/2W J RP<LH>
R146	87-A00-439-050		RES,180-1/2W J RP<U>
R146	87-A00-440-050		RES,220-1/2W J RP<LH>
R233	87-A00-258-080		RES,M/F 0.22-1W J
R234	87-A00-258-080		RES,M/F 0.22-1W J
R790	87-010-197-080		CAP, CHIP 0.01 DM
R991	87-010-322-080		C-CAP,S 100P-50 CH
R993	87-010-322-080		C-CAP,S 100P-50 CH
R995	87-010-322-080		C-CAP,S 100P-50 CH
SFR451	87-A90-432-080		SFR,30K H NVZ6TLTA
SFR452	87-A90-432-080		SFR,30K H NVZ6TLTA
WH1	87-A91-179-010		HLDR,WIRE 2.5-11P
X991	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

FRONT C.B

C201	87-010-322-080		C-CAP,S 100P-50 CH
C202	87-010-322-080		C-CAP,S 100P-50 CH
C203	87-010-322-080		C-CAP,S 100P-50 CH
C204	87-010-322-080		C-CAP,S 100P-50 CH
C205	87-010-322-080		C-CAP,S 100P-50 CH
C206	87-010-322-080		C-CAP,S 100P-50 CH
C207	87-010-322-080		C-CAP,S 100P-50 CH
C208	87-010-322-080		C-CAP,S 100P-50 CH
C209	87-010-322-080		C-CAP,S 100P-50 CH
C210	87-010-322-080		C-CAP,S 100P-50 CH
C211	87-010-322-080		C-CAP,S 100P-50 CH
C251	87-010-405-040		CAP,E 10-50
C253	87-010-196-080		CHIP CAPACITOR,0.1-25
C254	87-012-369-080		C-CAP,S 0.047-50F
C255	87-010-415-040		CAP,E 10-50 5L
C256	87-010-405-040		CAP,E 10-50
C259	87-010-405-040		CAP,E 10-50
C273	87-010-178-080		CHIP CAP 1000P
C274	87-010-178-080		CHIP CAP 1000P
C301	87-010-182-080		C-CAP,S 2200P-50 B
C302	87-010-196-080		CHIP CAPACITOR,0.1-25
C312	87-010-498-040		CAP,E 10-16 GAS
C314	87-010-196-080		CHIP CAPACITOR,0.1-25
C315	87-010-196-080		CHIP CAPACITOR,0.1-25
C316	87-010-196-080		CHIP CAPACITOR,0.1-25
C321	87-A11-606-080		C-CAP,S 0.22-25 K B
C322	87-010-400-040		CAP,E 0.47-50
C325	87-A10-189-040		CAP,E 220-10
C326	87-A10-189-040		CAP,E 220-10
C332	87-010-178-080		CHIP CAP 1000P
C334	87-010-312-080		C-CAP,S 15P-50 CH
C335	87-012-140-080		CAP 470P
C336	87-012-155-080		C-CAP 180P-50CH
C339	87-012-156-080		C-CAP,S 220P-50 CH
C340	87-010-197-080		CAP, CHIP 0.01 DM
C341	87-010-194-080		CAP, CHIP 0.047
C351	87-010-382-040		CAP,E 22-25 SME
C401	87-010-197-080		CAP, CHIP 0.01 DM
C451	87-010-196-080		CHIP CAPACITOR,0.1-25
C452	87-010-196-080		CHIP CAPACITOR,0.1-25
C453	87-010-196-080		CHIP CAPACITOR,0.1-25
C454	87-010-196-080		CHIP CAPACITOR,0.1-25
C455	87-010-196-080		CHIP CAPACITOR,0.1-25
C502	87-010-186-080		CAP,CHIP 4700P<LH>
C503	87-010-112-040		CAP,E 100-16<LH>
C504	87-010-405-040		CAP,E 10-50<LH>
C505	87-010-545-040		CAP,E 0.22-50 SME<LH>
C506	87-010-320-080		CHIP CAP 68P<LH>
C507	87-010-544-040		CAP,E 0.1-50 SME<LH>
C508	87-010-544-040		CAP,E 0.1-50 SME<LH>
C509	87-010-177-080		C-CAP,S 820P-50 SL<LH>
C510	87-010-322-080		C-CAP,S 100P-50 CH<LH>
C511	87-010-265-040		CAP,E 33-16 SME<LH>
C513	87-010-196-080		CHIP CAPACITOR,0.1-25<LH>
C515	87-010-178-080		CHIP CAP 1000P<LH>
C602	87-010-322-080		C-CAP,S 100P-50 CH
C603	87-010-322-080		C-CAP,S 100P-50 CH
C604	87-010-322-080		C-CAP,S 100P-50 CH
C650	87-010-196-080		CHIP CAPACITOR,0.1-25
C699	87-010-196-080		CHIP CAPACITOR,0.1-25
CN101	87-099-720-010		CONN,30P TYK-B(P)
CN102	87-099-015-010		CONN,13P 6216V
CN301	87-A60-140-010		CONN,15P V FE<LH>
CN302	87-A60-136-010		CONN,11P V FE<U>
FB501	87-008-372-080		FILTER, EMI BL OIRNI<LH>
FL401	8A-NF8-601-010		FL,HNA-11MM30(ANF-8)
J501	87-A61-242-010		JACK,6.3 BLK MONO W/SW V KM<LH>
L331	87-A50-408-010		COIL,OSC 5.76MHZ
LED311	87-A40-589-040		LED,SLR-56VCT31 RED
LED601	87-A40-803-010		LED,SELU1E10CXM-S LF38 BLUE
LED602	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED603	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED604	87-A40-619-080		LED,SLR-56PT-TE7-W GRN<LH>
LED605	87-A40-619-080		LED,SLR-56PT-TE7-W GRN<U>
LED606	87-A40-619-080		LED,SLR-56PT-TE7-W GRN<LH>
LED607	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
LED608	87-A40-619-080		LED,SLR-56PT-TE7-W GRN
S401	87-A91-024-180		SW,TACT KSH0611BT
S402	87-A91-024-180		SW,TACT KSH0611BT
S403	87-A91-024-180		SW,TACT KSH0611BT
S404	87-A91-024-180		SW,TACT KSH0611BT
S405	87-A91-024-180		SW,TACT KSH0611BT
S406	87-A91-024-180		SW,TACT KSH0611BT
S407	87-A91-024-180		SW,TACT KSH0611BT
S408	87-A91-024-180		SW,TACT KSH0611BT
S409	87-A91-024-180		SW,TACT KSH0611BT
S410	87-A91-024-180		SW,TACT KSH0611BT
S411	87-A91-024-180		SW,TACT KSH0611BT
S412	87-A91-024-180		SW,TACT KSH0611BT<LH>
S413	87-A91-024-180		SW,TACT KSH0611BT
S414	87-A91-024-180		SW,TACT KSH0611BT
S415	87-A91-024-180		SW,TACT KSH0611BT
S416	87-A91-024-180		SW,TACT KSH0611BT
S417	87-A91-024-180		SW,TACT KSH0611BT
S418	87-A91-024-180		SW,TACT KSH0611BT
S419	87-A91-024-180		SW,TACT KSH0611BT
S420	87-A91-024-180		SW,TACT KSH0611BT<LH>
S425	87-A91-024-180		SW,TACT KSH0611BT
S426	87-A91-024-180		SW,TACT KSH0611BT
S430	87-A91-024-180		SW,TACT KSH0611BT
S431	87-A91-024-180		SW,TACT KSH0611BT
S432	87-A91-024-180		SW,TACT KSH0611BT
S433	87-A91-024-180		SW,TACT KSH0611BT

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S434	87-A91-024-180		SW,TACT KSH0611BT
S435	87-A91-024-180		SW,TACT KSH0611BT
SW252	87-A91-555-010		SW,RTRY EC12E24504
SW253	87-A91-542-010		SW,RTRY EC12E12504
VR501	86-NFA-607-010		VR,RTRY 10K15AX1 1 V XV0121PVN<LH>
PT C.B			
C1	87-010-387-080		CAP,E 470-25 SME
C31	87-010-403-040		CAP,E 3.3-50 SME
CN1	87-A61-122-010		CONN,11P V TID-A
⚠ PT2	8A-NF8-673-010		PT,SUB ANF-8 (H)KAMI<LH>
⚠ PT2	8A-NF8-661-010		PT,SUB ANF-8 (U)<U>
⚠ RY1	87-A91-339-010		RELAY,AC DC12V G5PA-2<LH>
⚠ RY2	87-A91-418-010		RELAY,AC12V G5PA-1-M<U>
⚠ S1	87-A90-165-010		SW,SL 1-2-3 SWS2301<LH>
⚠ T1	87-A60-317-010		TERMINAL, 1P MSC
⚠ T2	87-A60-317-010		TERMINAL, 1P MSC
DECK C.B<U>			
CN1	87-099-753-010		CONN,11P H 9604
SFR1	87-024-581-010		SFR,3.3K DIA6V K0A
SW1	87-A90-673-010		SW,MICRO ESE11SH1C
SW2	87-A91-500-010		SW,MICRO MPU11470MLB0
SW3	87-A91-500-010		SW,MICRO MPU11470MLB0
SW4	87-A91-500-010		SW,MICRO MPU11470MLB0
SW5	87-A90-673-010		SW,MICRO ESE11SH1C
DECK C.B<LH>			
CON105	87-099-756-019		CONN,15P 9604 S F
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-410		SOL ASSY,27
SOL2	82-ZM1-618-410		SOL ASSY,27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-019		SW,MICRO SPPB62
SW5	87-036-110-019		SW,MICRO SPPB62
SW6	87-036-110-019		SW,MICRO SPPB62
SW8	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW9	87-A90-248-019		SW,MICRO ESE11SH2CXQ
W1	82-ZM3-601-019		RBN,CORD,4P-75
HEAD-1 C.B			
	85-ZM3-602-010		PWB,FLEX A
HEAD-2 C.B			
	85-ZM3-602-010		PWB,FLEX A
CON351	87-NF6-616-010		CONN ASSY,8P-RPB

TRANSISTOR ILLUSTRATION

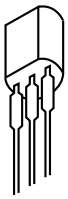


E C B

KTA1266GR
KTC3198GR
CD1585BC
CSA952K

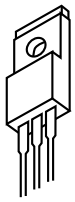
E C B

2SC3331(T/U)



E C B

CSC4115BC

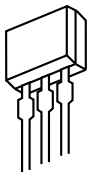


B C E

2SB1370

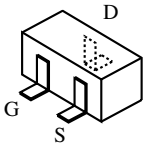
E C B

DTC114ES
KTC3199GR

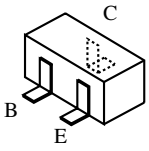


S D G

2SJ460
2SK2541



2SK2158
2SJ461-T1

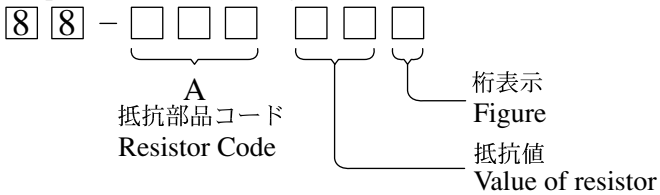


2SA1235F
2SC3052F
CMBT5551
CMBT5401
RT1P141C

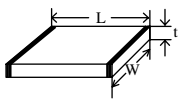
RT1N441C
RT1N141C
RT1P144C
2SC2714O

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

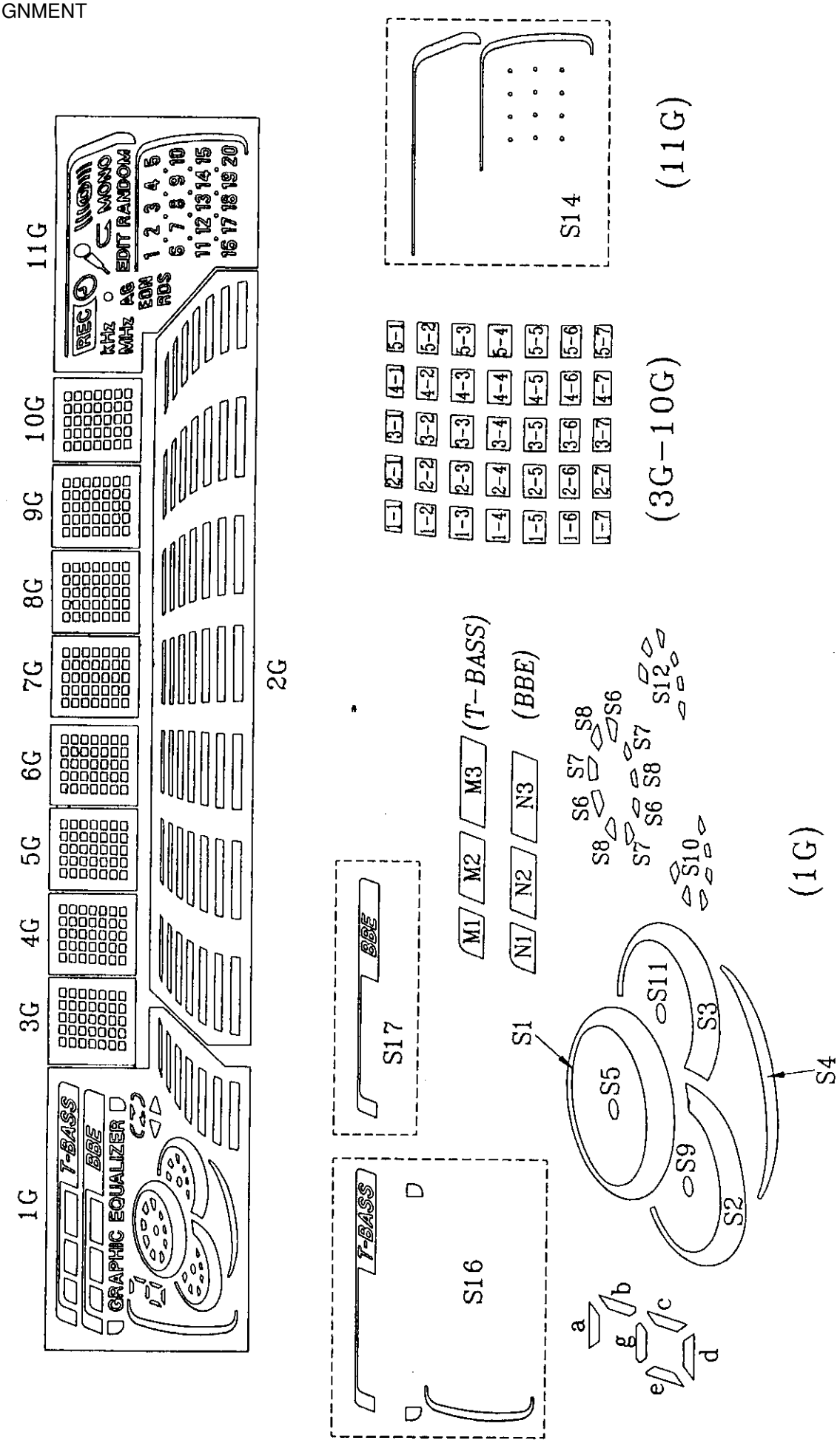
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding

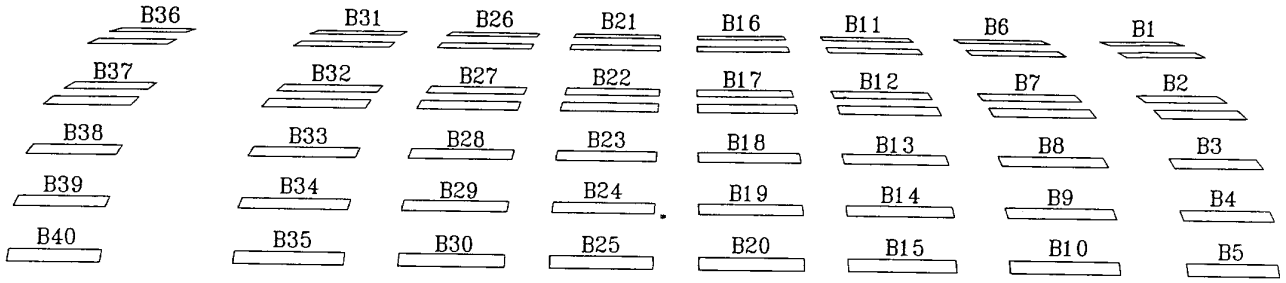


チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード　：A Resistor Code：A
				外形／Form	L	W	t	
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

GRID ASSIGNMENT





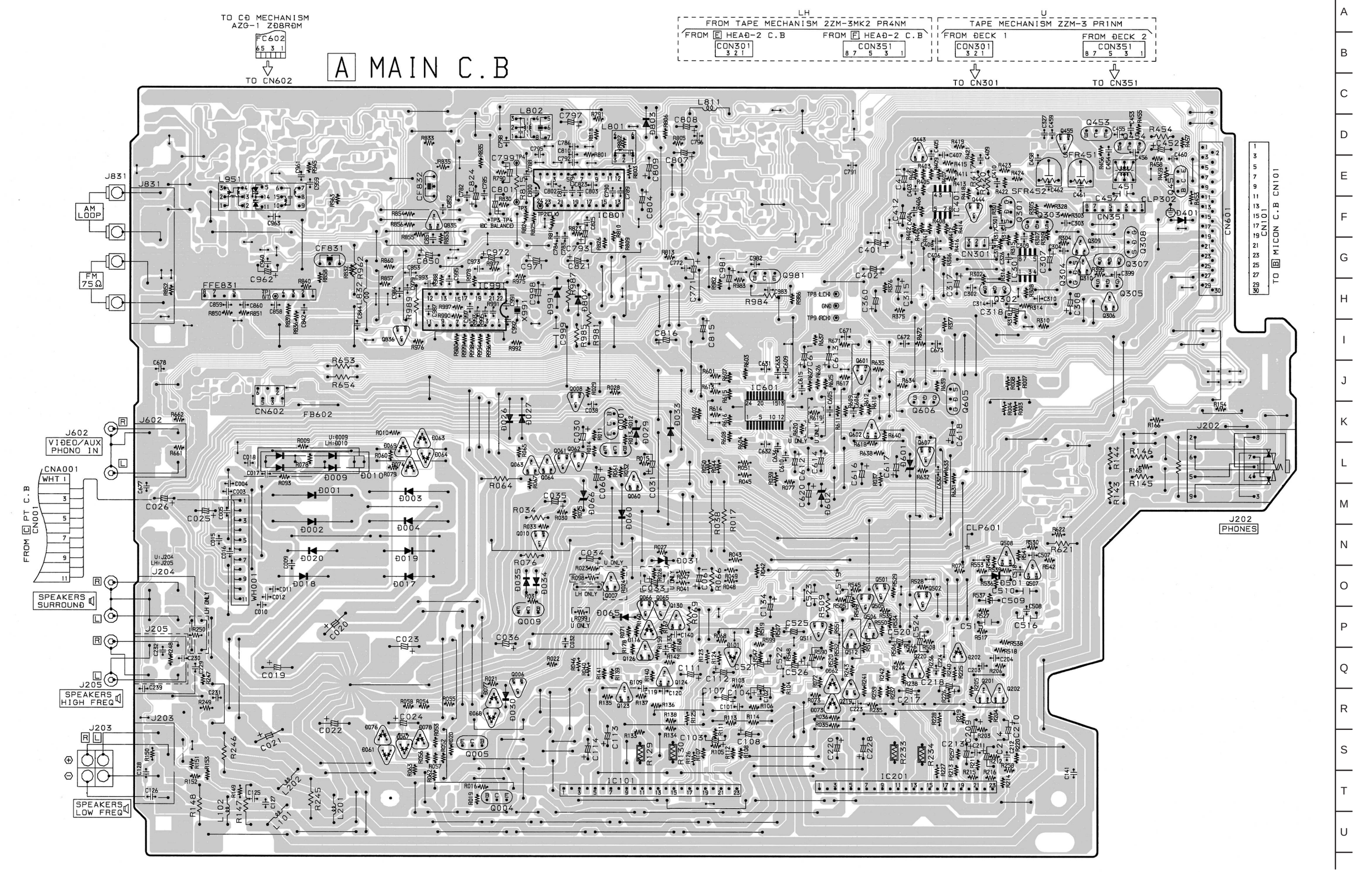
(1G)

(2G)

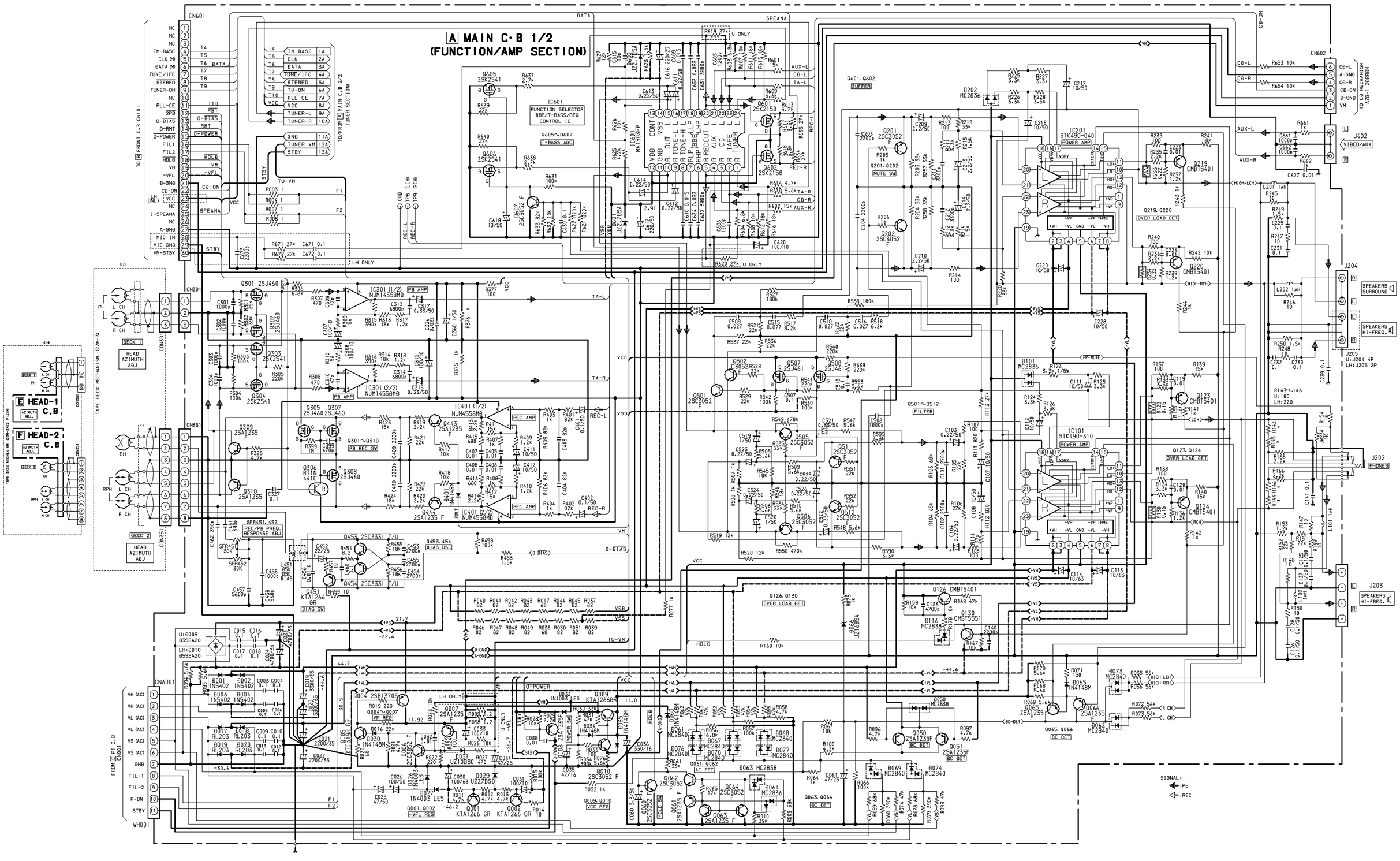
ANODE CONNECTION

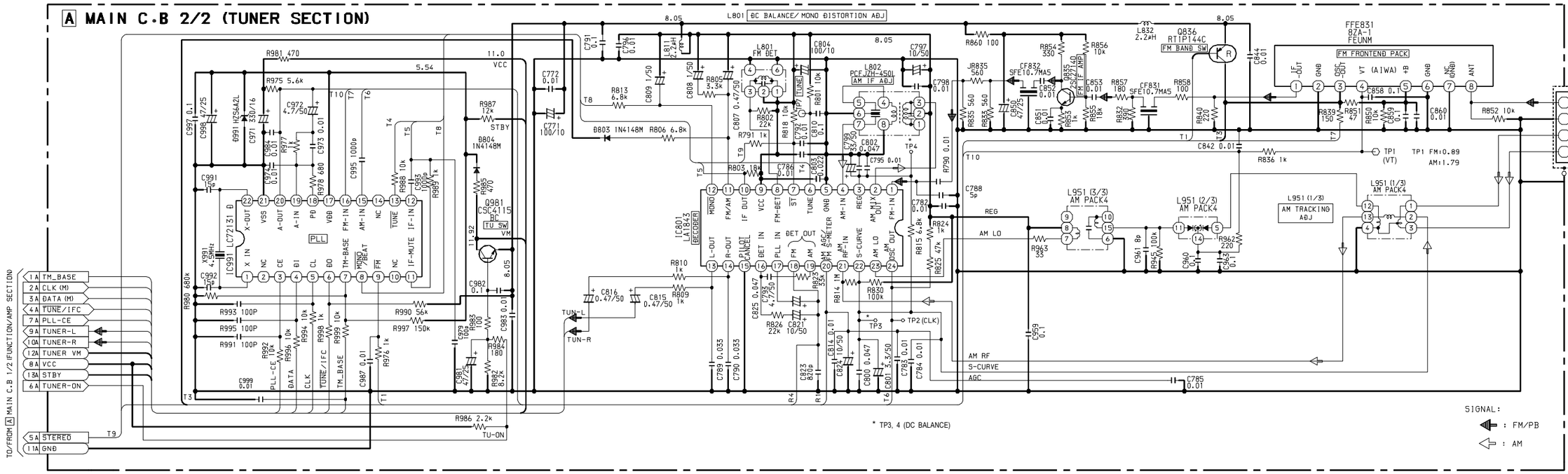
	1G	2G	3G-10G	11G
P1	S17	B35	1-1	
P2	N1	B30	2-1	MONO
P3	N2	B25	3-1	RANDOM
P4	N3	B20	4-1	
P5	GRAPHIC EQUALIZER	B15	5-1	EDIT
P6		B10	1-2	
P7		B5	2-2	REC
P8		B34	3-2	kHz
P9		B29	4-2	MHz
P10		B24	5-2	○
P11	S4	B19	1-3	AG
P12	S2	B14	2-3	EON
P13	S10	B9	3-3	RDS
P14	S9	B4	4-3	S14
P15	S3	B33	5-3	20
P16	S12	B28	1-4	19
P17	S11	B23	2-4	18
P18	S1	B18	3-4	17

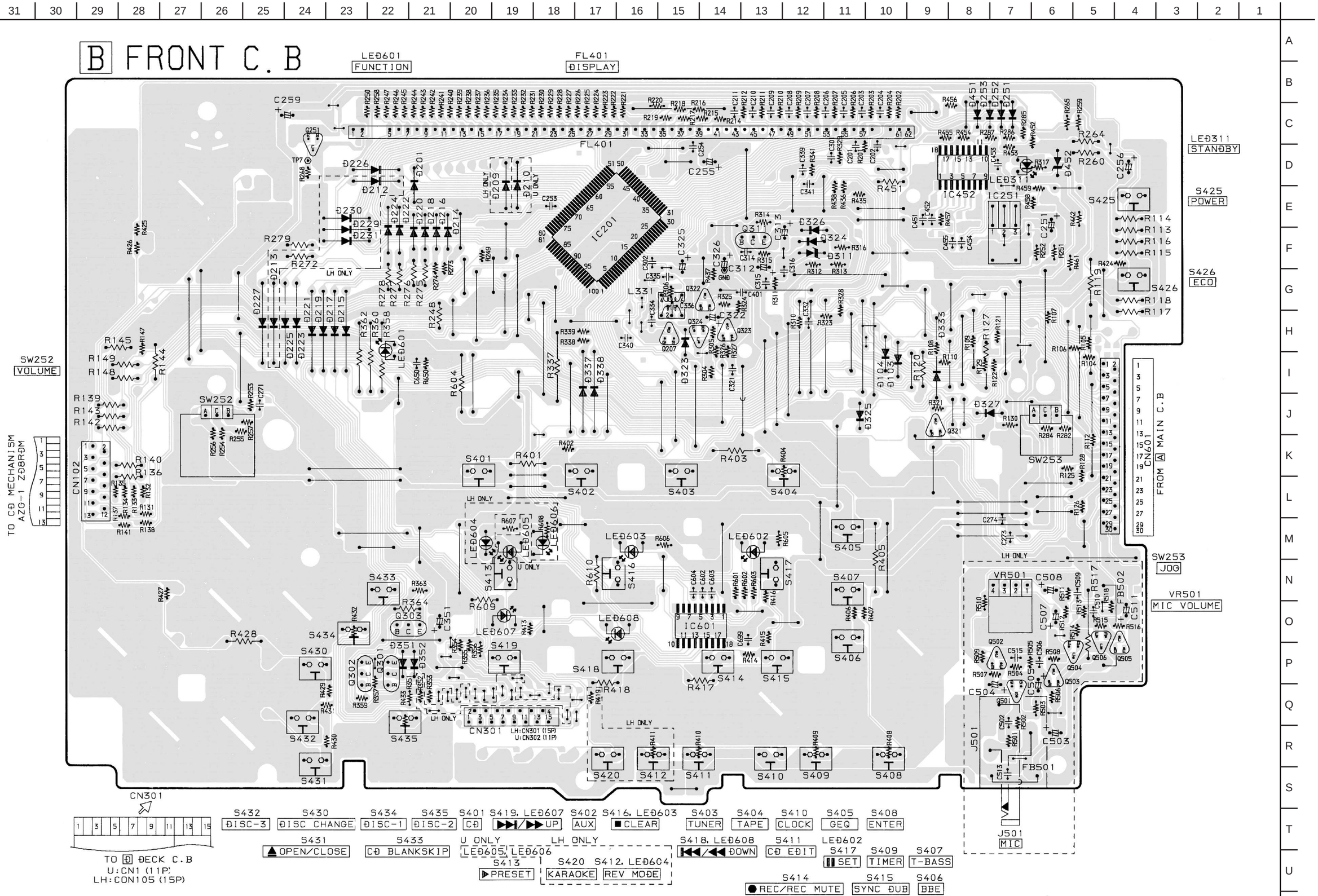
	1G	2G	3G-10G	11G
P19	S6	B13	4-4	16
P20	S7	B8	5-4	15
P21	S8	B3	1-5	14
P22	S5	B32	2-5	13
P23	S16	B27	3-5	12
P24	M1	B22	4-5	11
P25	M2	B17	5-5	10
P26	M3	B12	1-6	9
P27	e	B7	2-6	8
P28	a,g,d	B2	3-6	7
P29	b	B31	4-6	6
P30	c	B26	5-6	5
P31	B40	B21	1-7	4
P32	B39	B16	2-7	3
P33	B38	B11	3-7	2
P34	B37	B6	4-7	1
P35	B36	B1	5-7	


A MAIN C.B
TO CD MECHANISM AZG-1 ZD8RDM
FC602
TO CN602
LH
FROM TAPE MECHANISM 2ZM-3MK2 PR4NM
FROM E HEAD-2 C.B
CON301
FROM F HEAD-2 C.B
CON351
U
TAPE MECHANISM ZZM-3 PR1NM
FROM DECK 1
CON301
FROM DECK 2
CON351
TO CN301
TO CN351
TO B MICON C.B CN101
CN101
CN601
J831
AM LOOP
FM 75Ω
J602
VIDEO/AUX PHONO IN
CNA001
FROM C PT C.B CN001
J204
SPEAKERS SURROUND
J205
SPEAKERS HIGH FREQ
J203
SPEAKERS LOW FREQ
J202
PHONES
IC801
IC601
IC101
IC201
CN602
FB602
CN301
CN351
CLP302
CLP601
SFR451
SFR452
L951
L802
L801
L811
L451
X991
FFE831
CF831
CF832

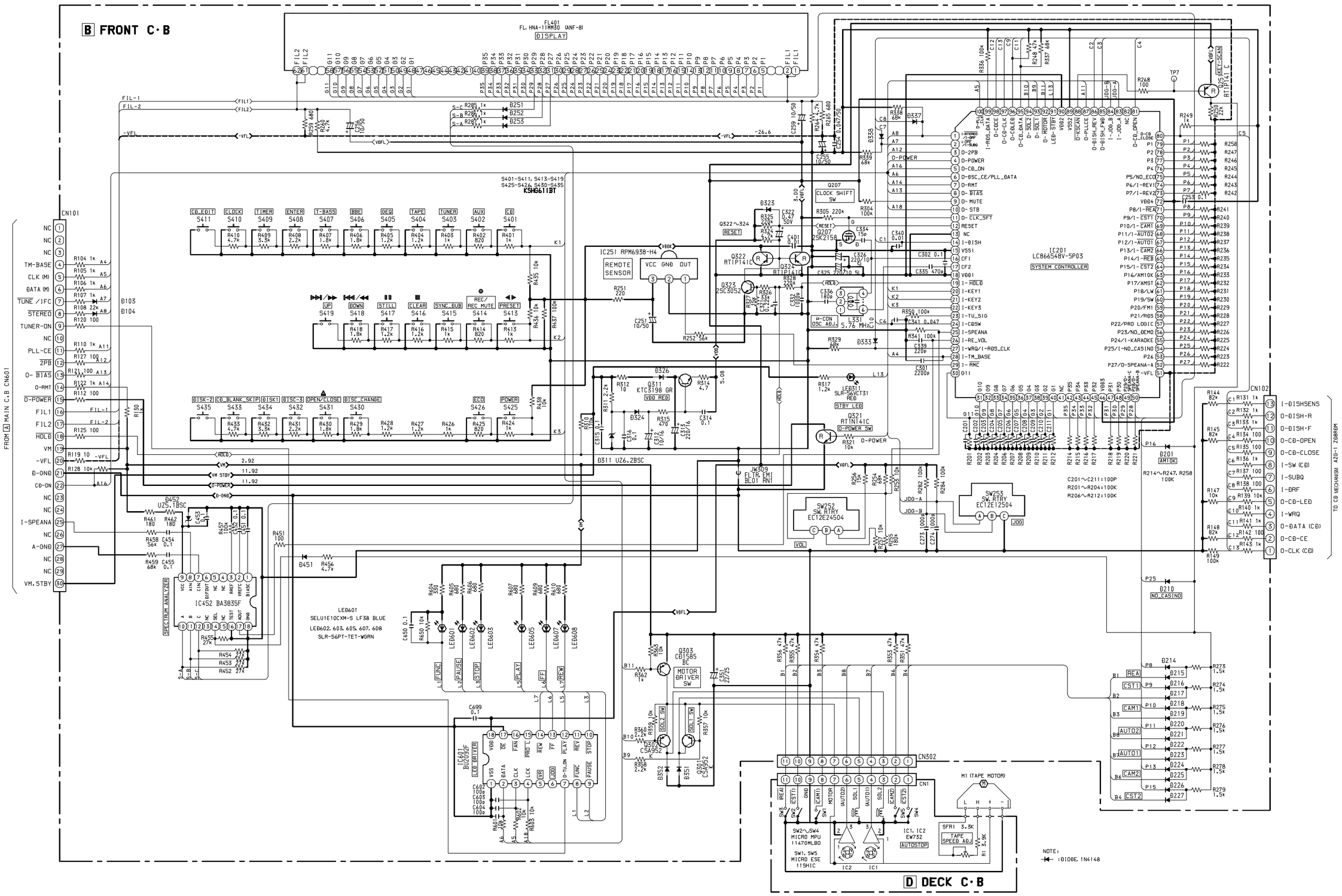
SCHEMATIC DIAGRAM – 1 (MAIN 1 / 2 : AMP)



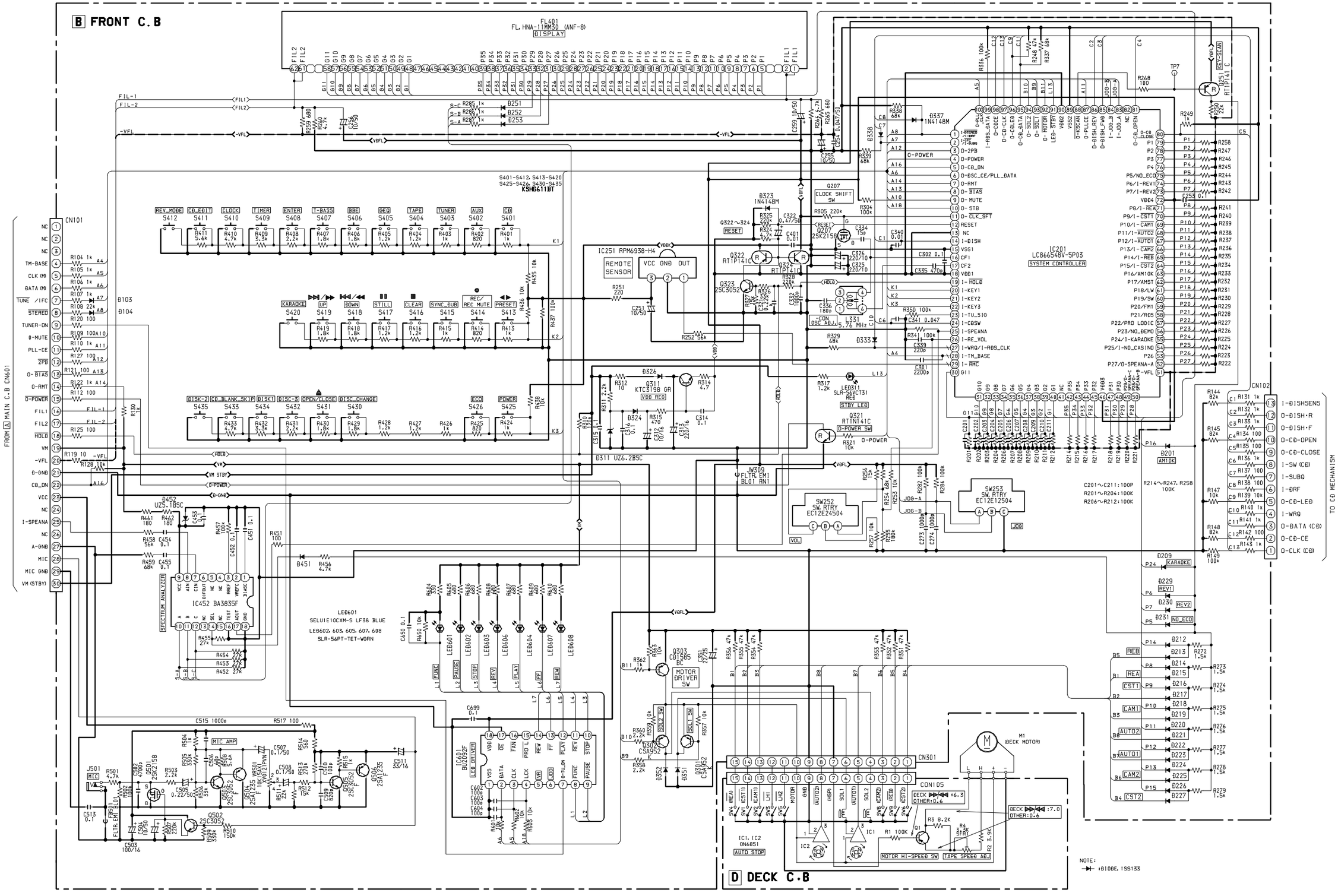

A MAIN C.B 2/2 (TUNER SECTION)
L801 ØC BALANCE/ MONO ØISTORTION ADJ
L802 PCFJ7H-450I AM IF ADJ
FFE831 8ZA-1 FEUNM
FM FRONTEND PACK
Q836 RT1P144C FM BAND SW
L951 (3/3) AM PACK4
L951 (2/3) AM PACK4
L951 (1/3) AM PACK4
L951 (1/3) AM TRACKING ADJ
IC991 LC72131 D
IC801 LA1843 DECODER
Q981 C5C4115 DC TU SW
J831 ANTENNA
TP1 (VT)
TP1 FM:0.89 AM:1.79
TP2 (CLK)
TP3
TUN-L
TUN-R
TU-ON
AM RF
S-CURVE
AGC
TO/FROM A MAIN C.B 1/2 (FUNCTION/AMP SECTION)
1A TM_BASE
2A CLK (M)
3A ØATA (M)
4A TUNE/IFC
7A PLL-CE
9A TUNER-L
10A TUNER-R
12A TUNER VM
8A VCC
13A STBY
6A TUNER-ON
5A STEREO
11A GNØ
* TP3, 4 (DC BALANCE)
SIGNAL:
: FM/PB
: AM

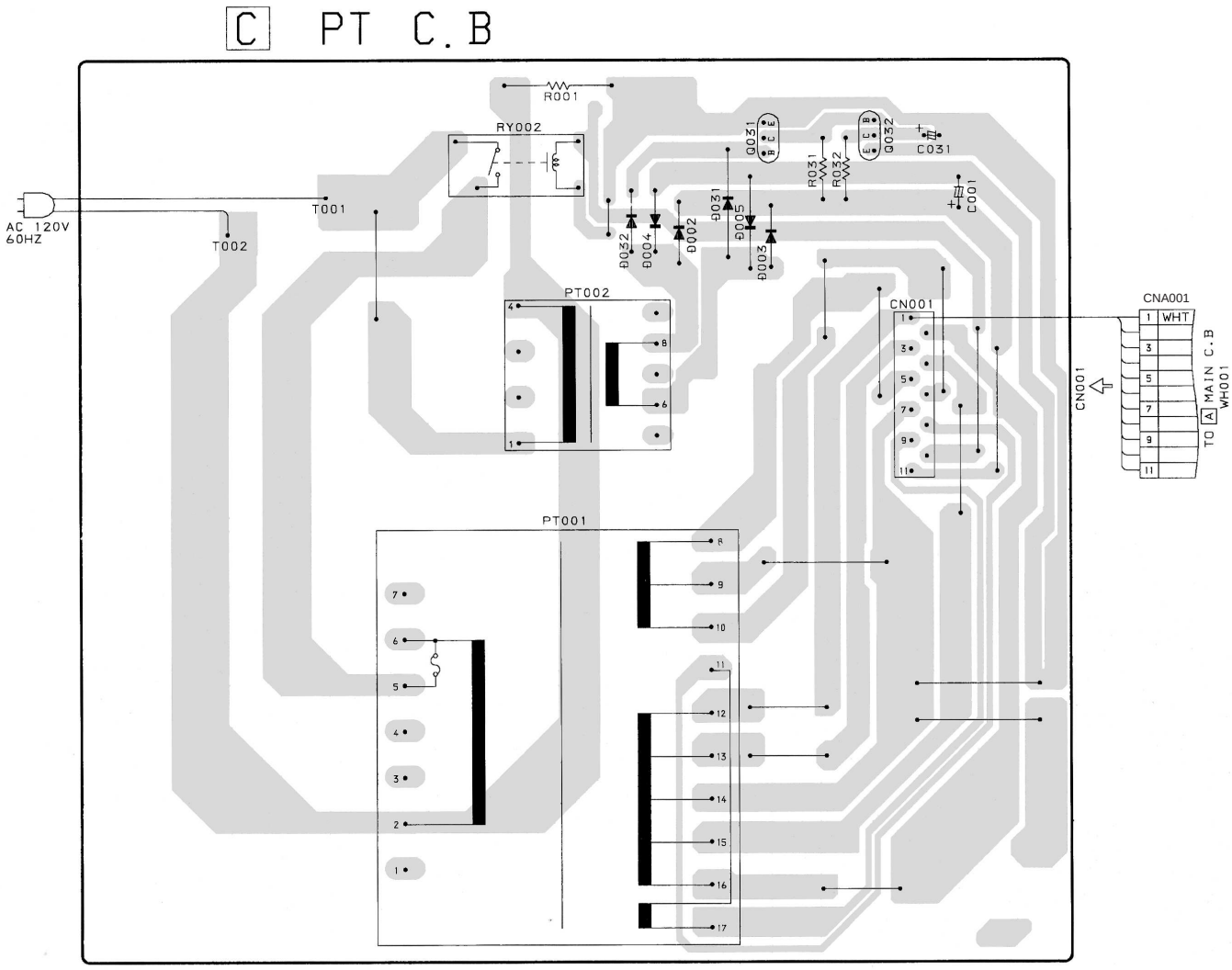

B FRONT C.B
LEÐ601 FUNCTION
FL401 ÐISPLAY
LEÐ311 STANÐBY
S425 POWER
S426 ECO
SW252 VOLUME
SW253 JOG
VR501 MIC VOLUME
J501 MIC
IC201
IC452
IC251
IC601
LH ONLY
U ONLY
TO CÐ MECHANISM AZG-1 ZÐ8RÐM
CN102
FROM A MAIN C.B
CN601
CN301
CN301 LH:CN301 (15P) U:CN302 (11P)
TO D ÐECK C.B
U:CN1 (11P)
LH:CON105 (15P)
S432 ÐISC-3
S430 ÐISC CHANGE
S434 ÐISC-1
S435 ÐISC-2
S401 CÐ
S419, LEÐ607 ▶▶I/▶▶ UP
S402 AUX
S416, LEÐ603 ■ CLEAR
S403 TUNER
S404 TAPE
S410 CLOCK
S405 GEQ
S408 ENTER
S431 ▲ OPEN/CLOSE
S433 CÐ BLANKSKIP
U ONLY LEÐ605, LEÐ606
S413 ▶ PRESET
S420 S412, LEÐ604 KARAOKE REV MOÐE
S418, LEÐ608 I◀◀/◀◀ ÐOWN
S411 CÐ EÐIT
LEÐ602
S417 ❚❚ SET
S409 TIMER
S407 T-BASS
S414 ● REC/REC MUTE
S415 SYNC ÐUB
S406 BBE

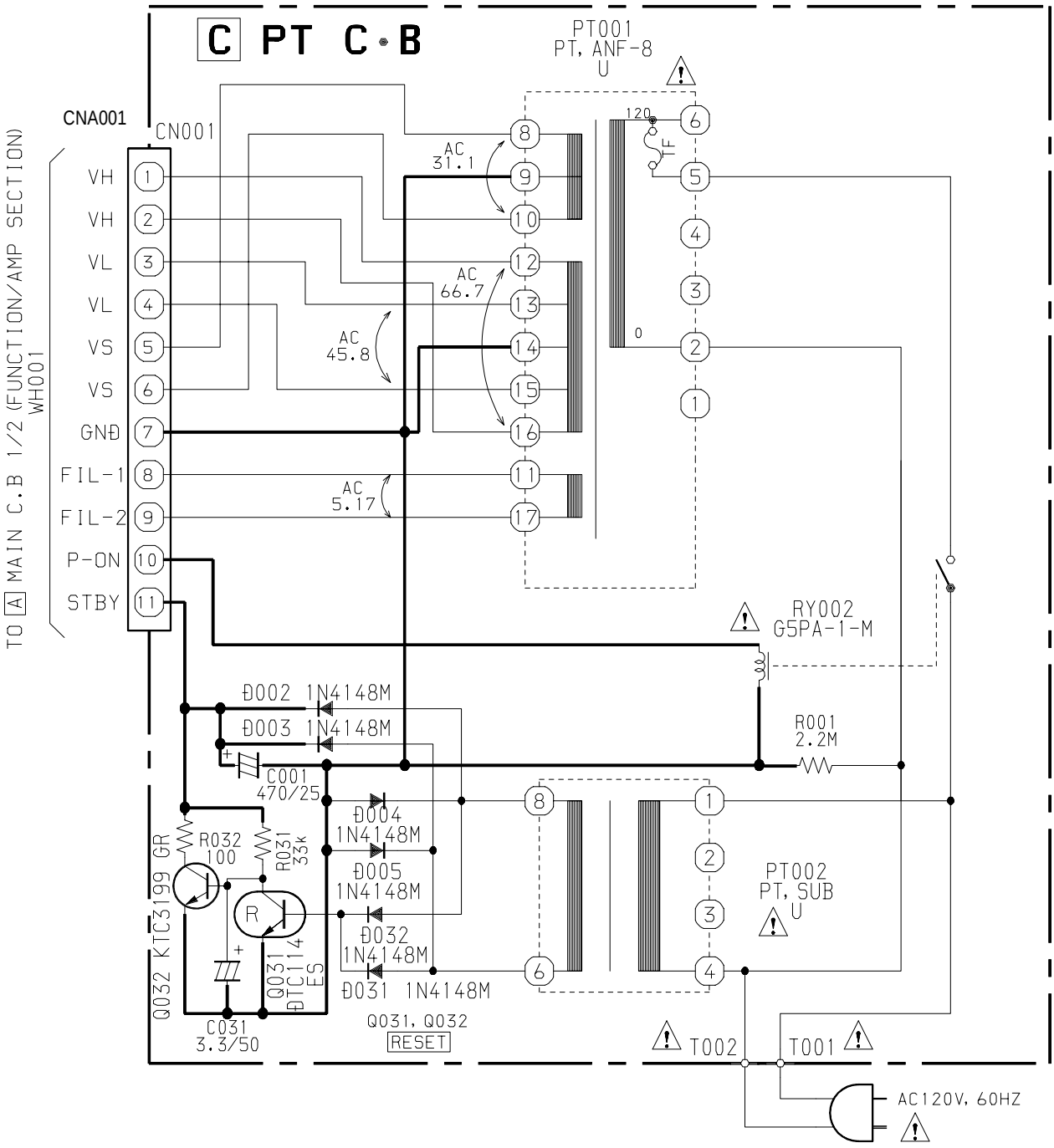
SCHEMATIC DIAGRAM – 3 (FRONT)<U>

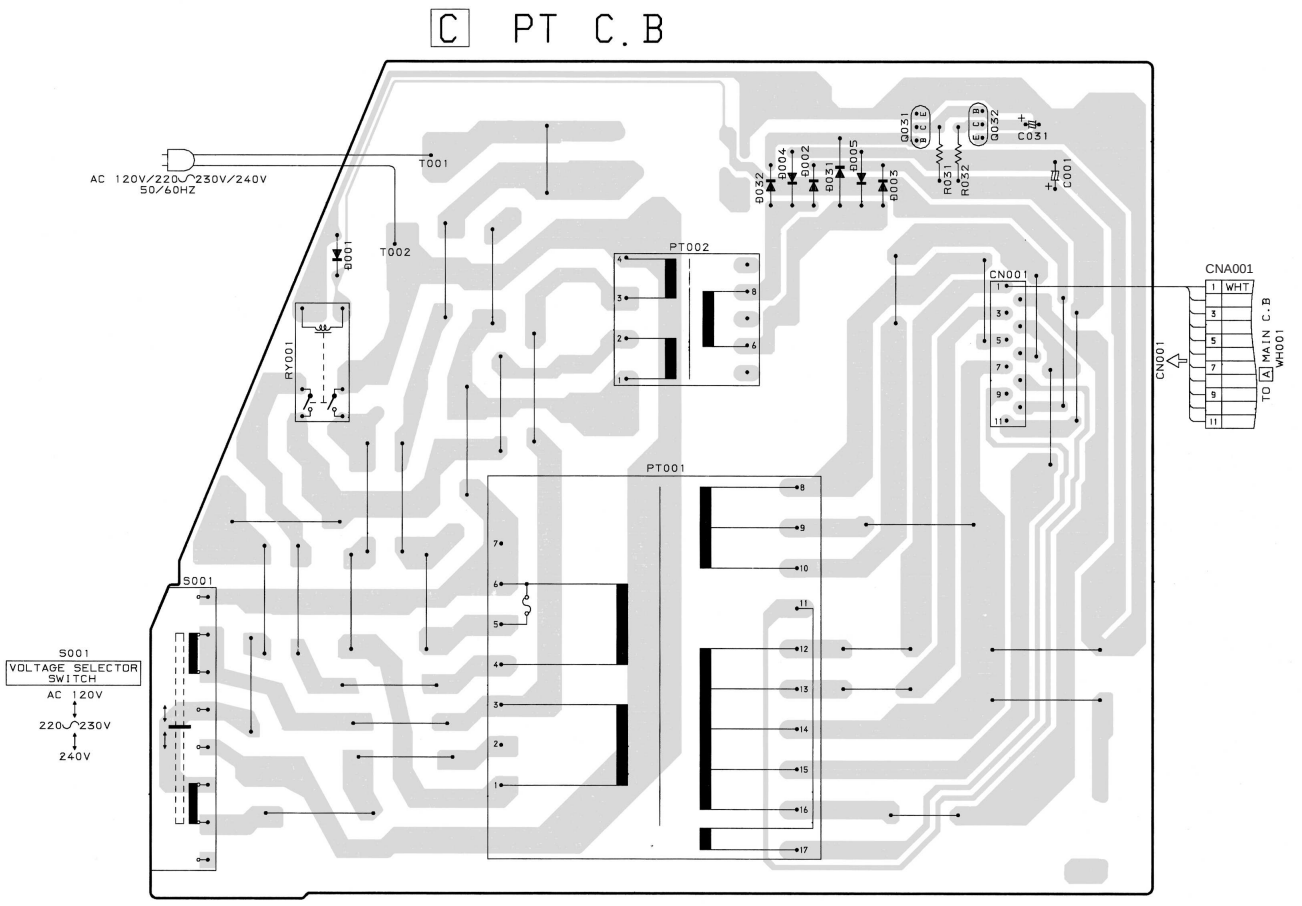


SCHEMATIC DIAGRAM – 4 (FRONT)<LH>

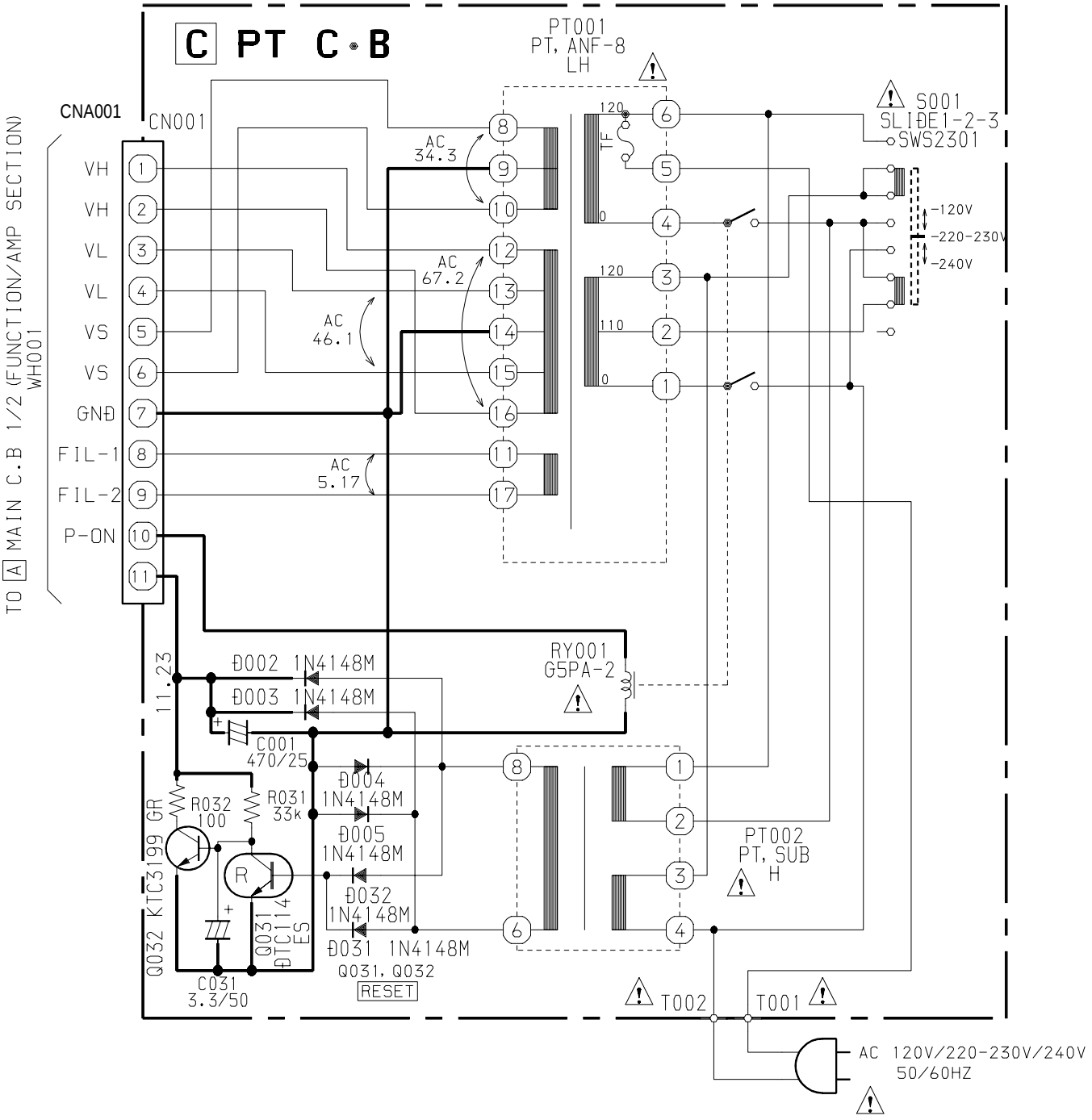


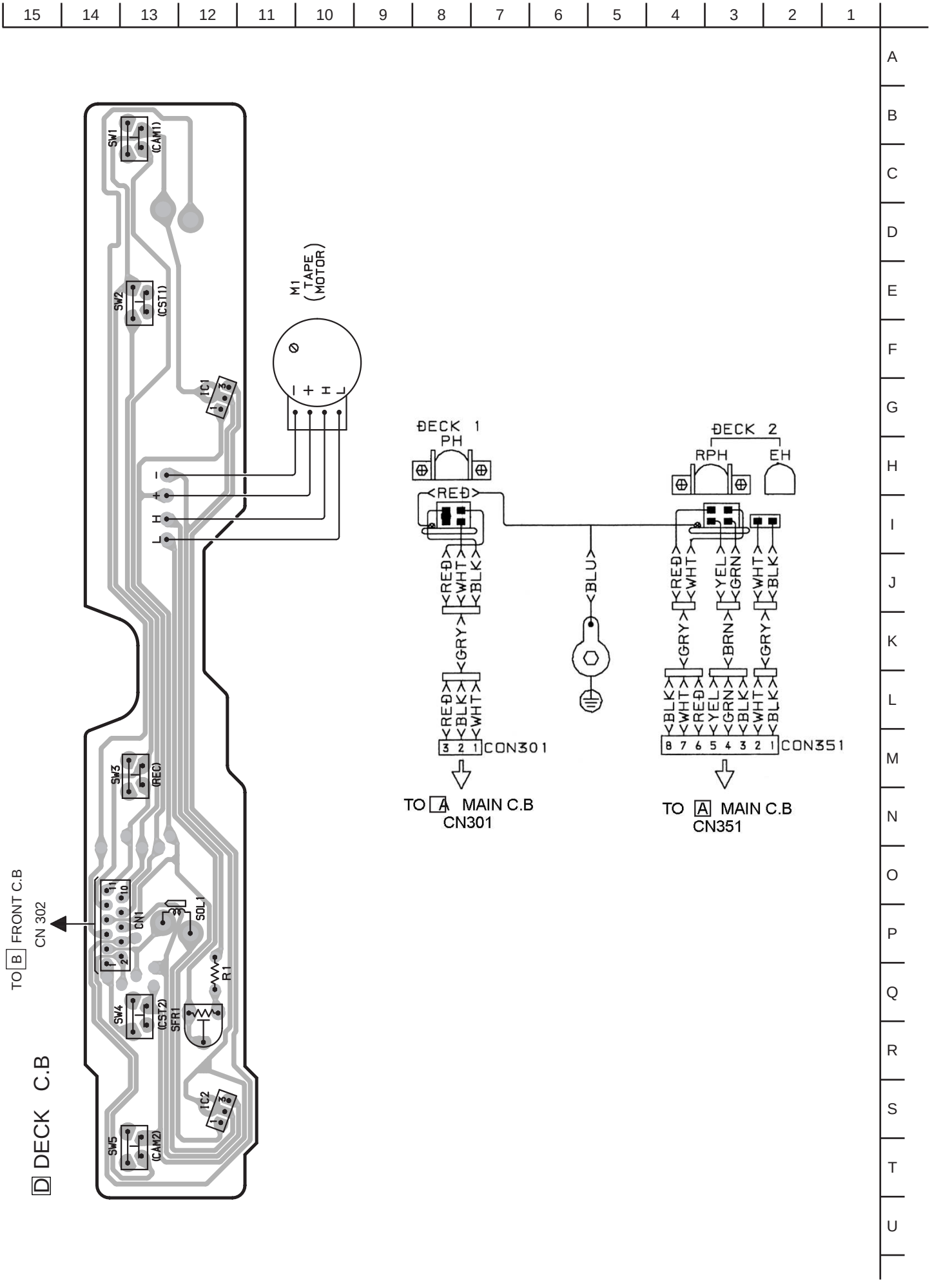

C PT C.B
R001
RY002
Q031
Q032
C031
C001
R031
R032
D032
D004
D002
D031
D005
D003
AC 120V
60HZ
T001
T002
PT002
CN001
CNA001
WHT
CN001
TO A MAIN C.B
WH001
PT001

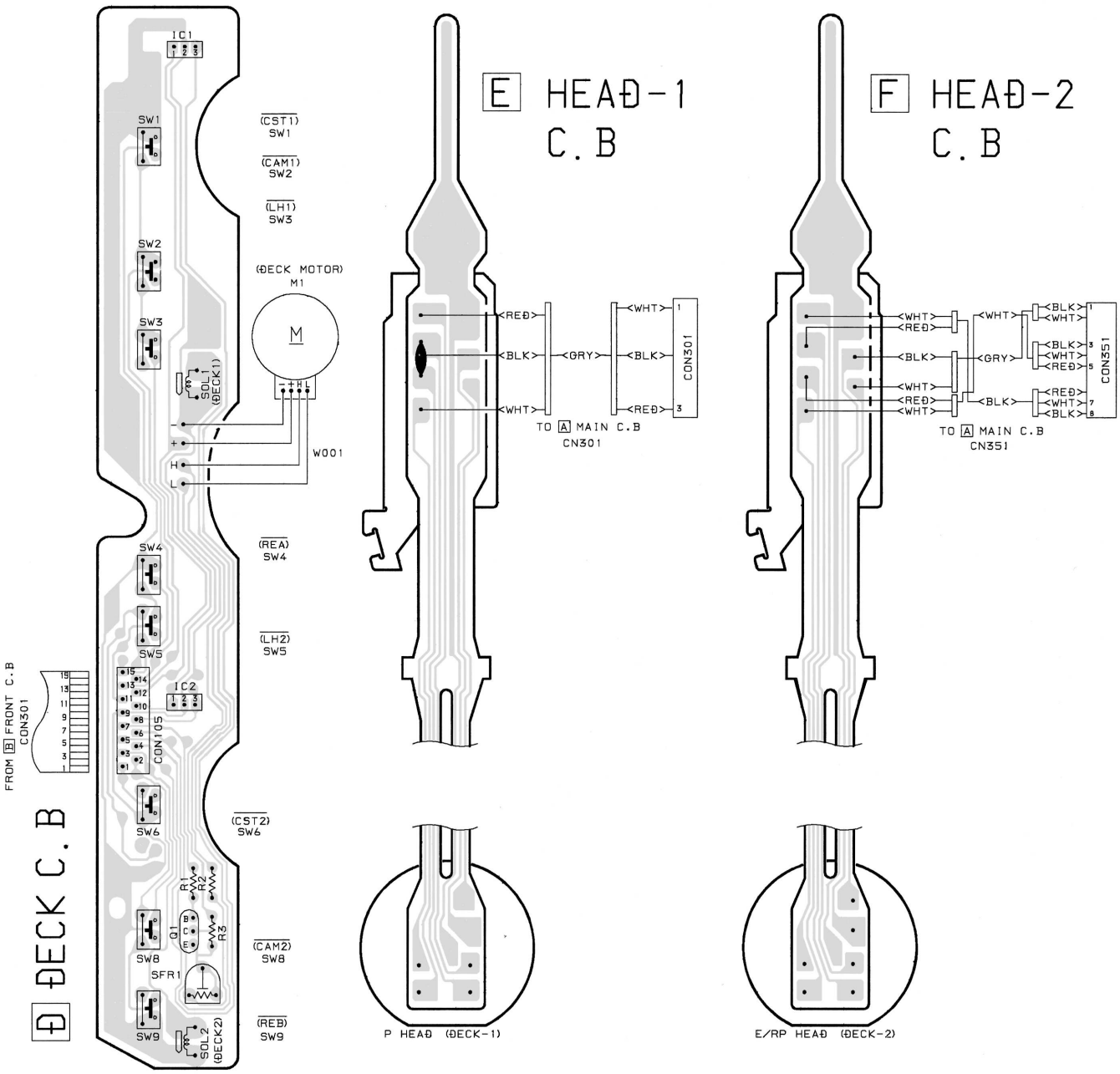

C PT C.B
PT001
PT, ANF-8
U
CNA001
CN001
TO A MAIN C.B 1/2 (FUNCTION/AMP SECTION)
WH001
VH
VH
VL
VL
VS
VS
GND
FIL-1
FIL-2
P-ON
STBY
AC 31.1
AC 66.7
AC 45.8
AC 5.17
120
0
TF
RY002
G5PA-1-M
D002 1N4148M
D003 1N4148M
R001
2.2M
C001
470/25
D004
1N4148M
D005
1N4148M
D032
1N4148M
D031 1N4148M
R032
100
R031
33k
Q032 KTC3199 GR
Q031
DTC114
ES
C031
3.3/50
Q031, Q032
RESET
PT002
PT, SUB
U
T002
T001
AC120V, 60HZ


C PT C.B
AC 120V/220~230V/240V
50/60HZ
T001
T002
B001
RY001
PT002
PT001
S001
S001
VOLTAGE SELECTOR
SWITCH
AC 120V
220~230V
240V
B032
B004
B002
B031
B005
B003
Q031
Q032
R051
R052
C031
C001
CN001
CNA001
WHT
TO A MAIN C.B
WH001

SCHEMATIC DIAGRAM – 6 (PT) <LH>

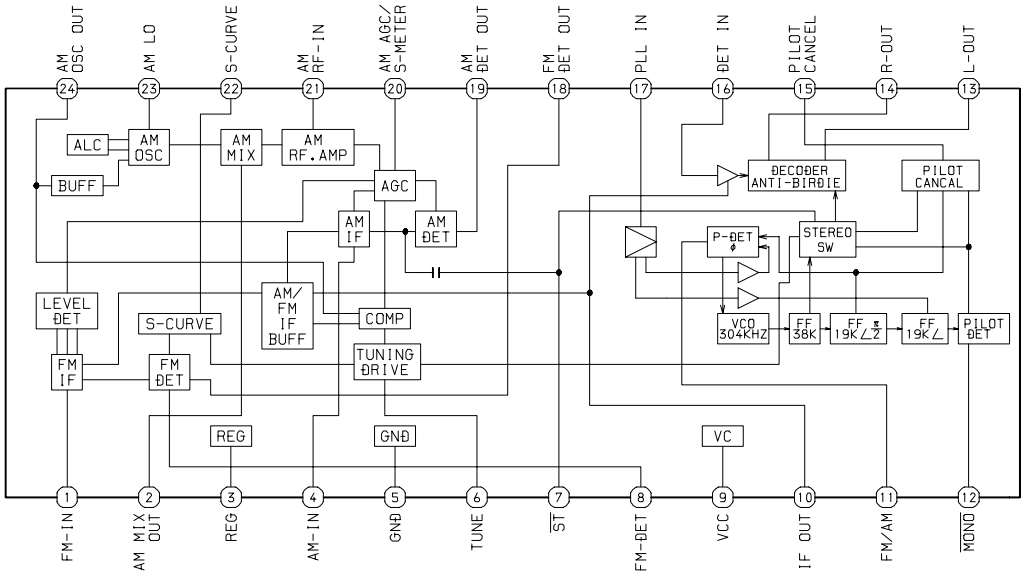



15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
A B C D E F G H I J K L M N O P Q R S T U
D DECK C.B
TO B FRONT C.B
CN 302
SW1 (CAM1)
SW2 (CST1)
SW3 (REC)
SW4 (CST2)
SW5 (CAM2)
CN1
SOL1
R1
SFR1
IC1
IC2
M1 (TAPE MOTOR)
– + H L
DECK 1
PH
RED
WHT
BLK
GRY
BLU
CON301
TO A MAIN C.B
CN301
DECK 2
RPH
EH
YEL
GRN
BRN
CON351
TO A MAIN C.B
CN351

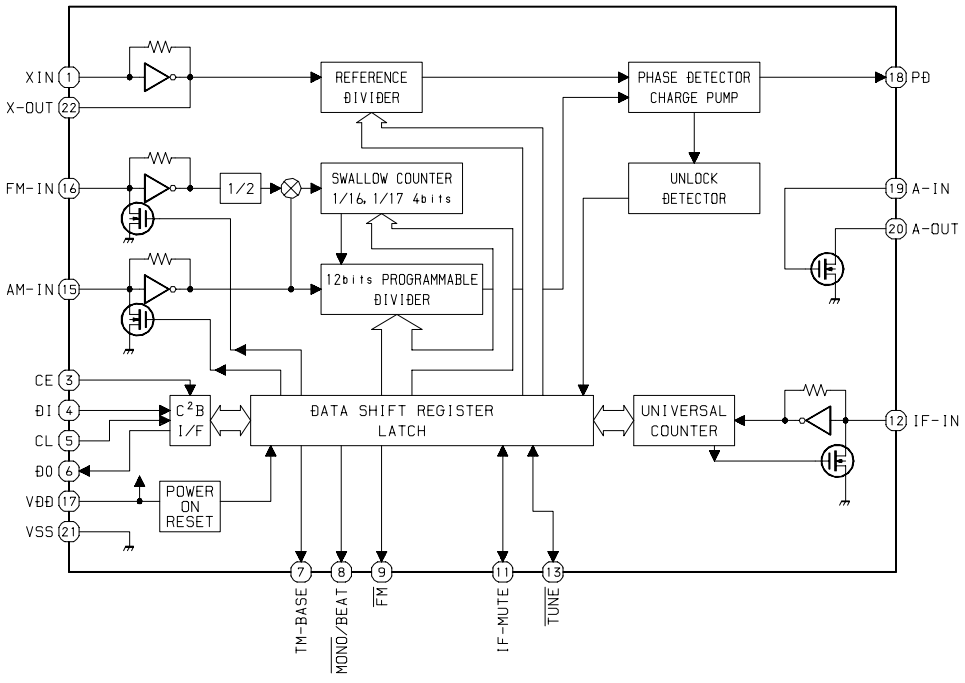

D DECK C.B
E HEAD-1 C.B
F HEAD-2 C.B
FROM B FRONT C.B CON301
CON105
IC1
IC2
SW1
SW2
SW3
SW4
SW5
SW6
SW8
SW9
(CST1) SW1
(CAM1) SW2
(LH1) SW3
(DECK MOTOR) M1
SOL1 (DECK1)
W001
(REA) SW4
(LH2) SW5
(CST2) SW6
(CAM2) SW8
(REB) SW9
SFR1
SOL2 (DECK2)
Q1
R1
R2
R3
RED
BLK
GRY
WHT
CON301
TO A MAIN C.B CN301
CON351
TO A MAIN C.B CN351
P HEAD (DECK-1)
E/RP HEAD (DECK-2)

IC BLOCK DIAGRAM

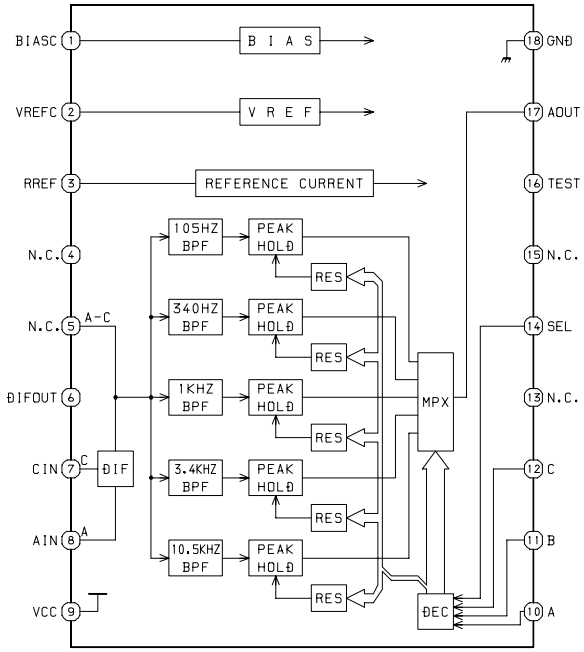
IC, LA1843



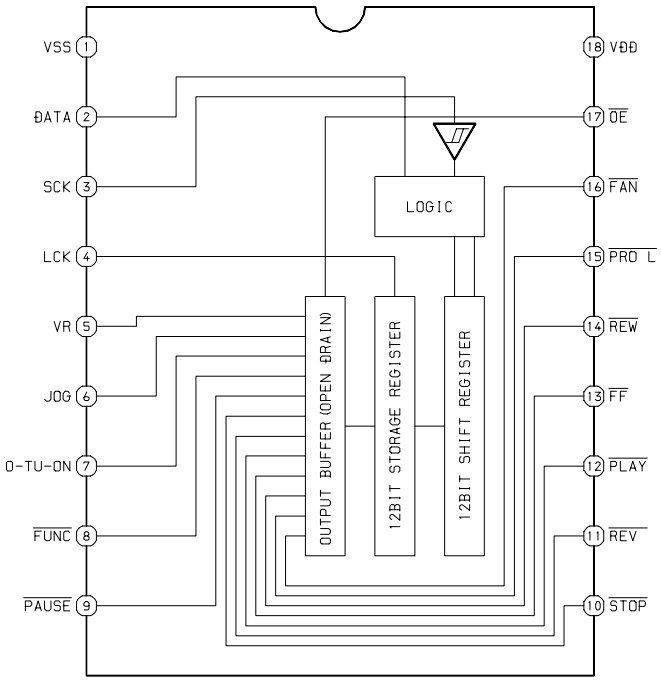
IC, LC72131D



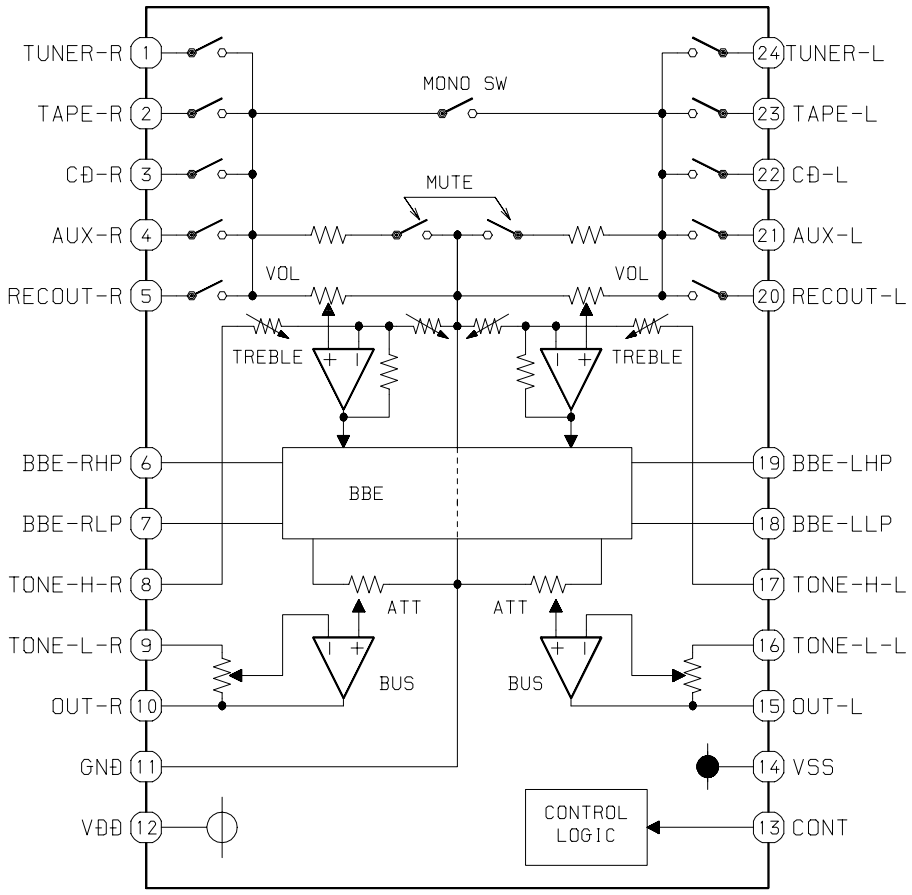
IC, BA3835F



IC, BU2092F



IC, M61503FP

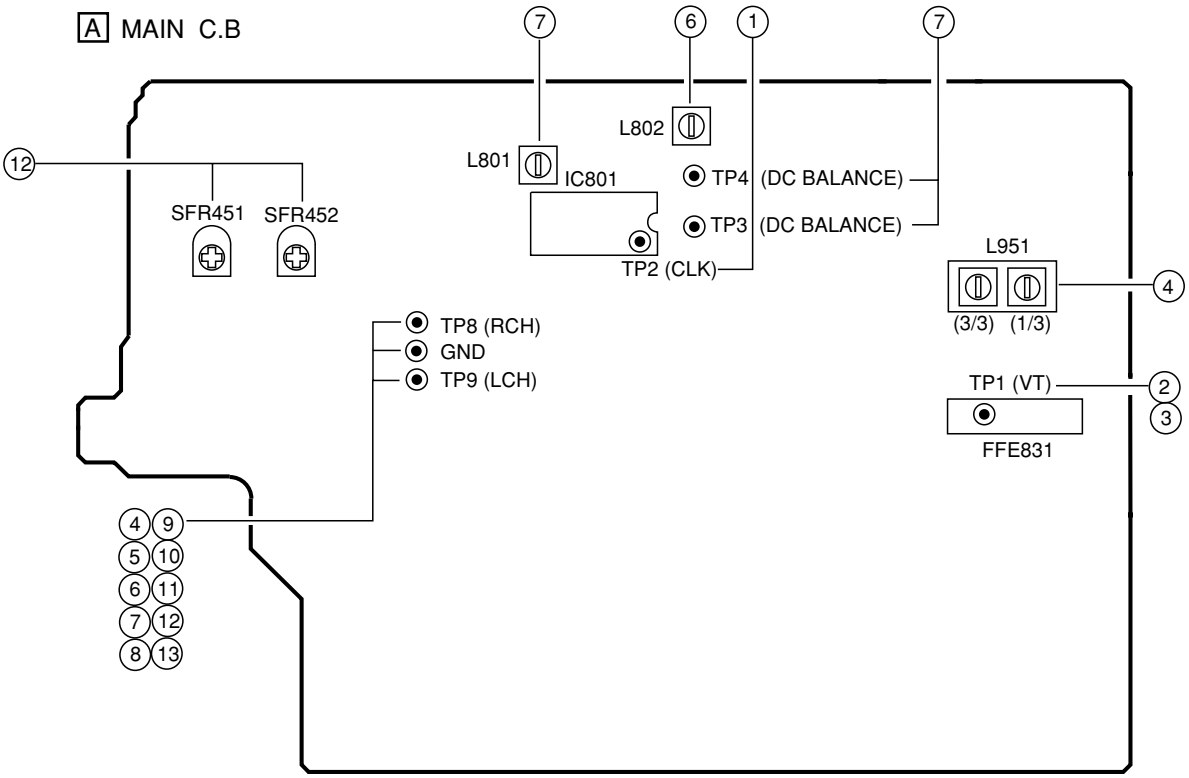

TUNER-R 1
TAPE-R 2
CD-R 3
AUX-R 4
RECOUT-R 5
BBE-RHP 6
BBE-RLP 7
TONE-H-R 8
TONE-L-R 9
OUT-R 10
GND 11
VDD 12
24 TUNER-L
23 TAPE-L
22 CD-L
21 AUX-L
20 RECOUT-L
19 BBE-LHP
18 BBE-LLP
17 TONE-H-L
16 TONE-L-L
15 OUT-L
14 VSS
13 CONT
MONO SW
MUTE
VOL
VOL
TREBLE
TREBLE
BBE
ATT
ATT
BUS
BUS
CONTROL LOGIC

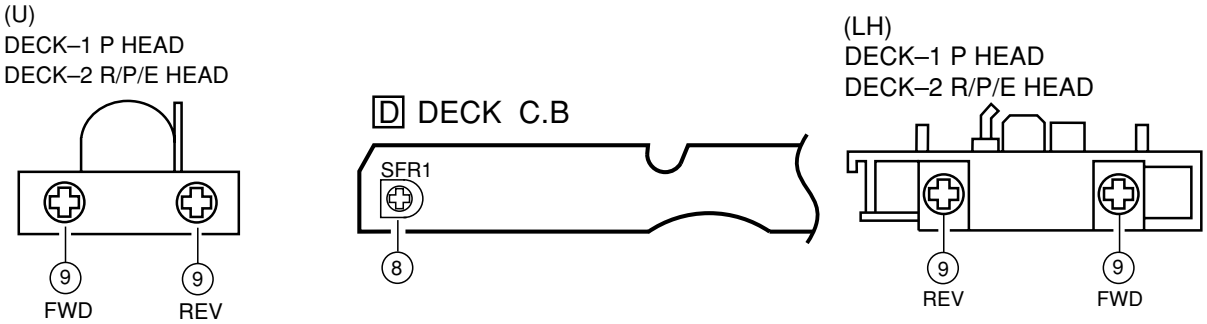
IC DESCRIPTION

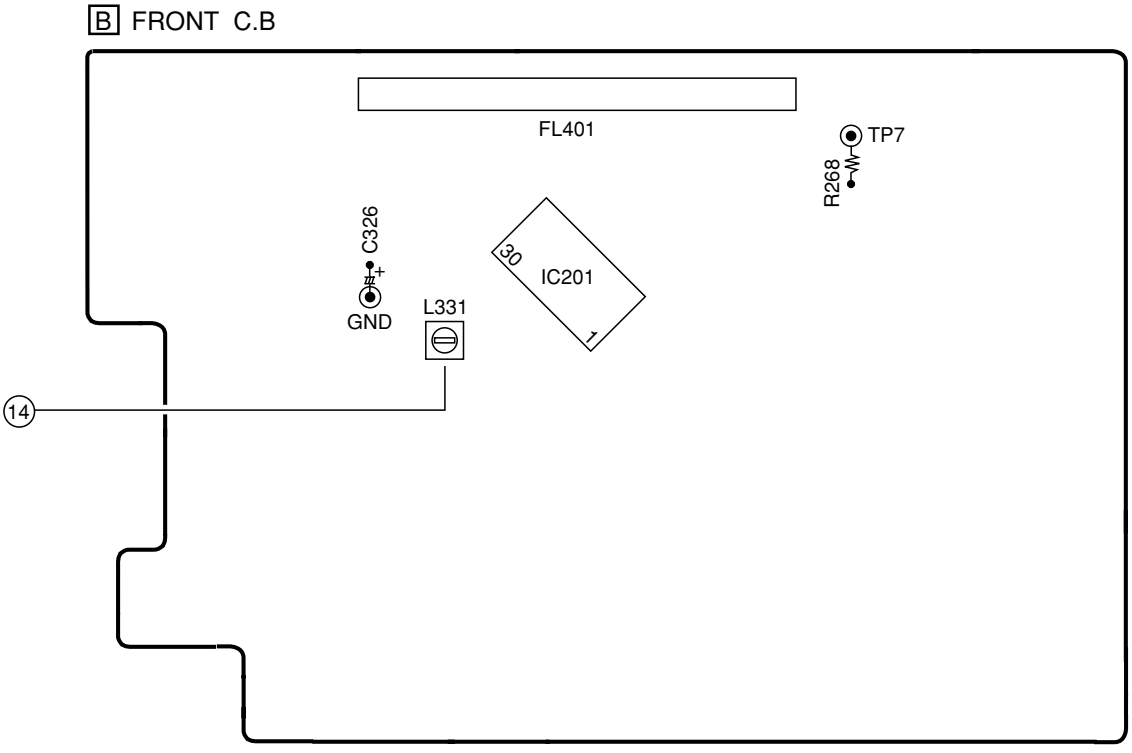
IC, LC866548V-5P03

Pin No.	Pin Name	I/O	Description
1	I-$\overline{\text{STEREO}}$/I-DRF	I	Stereo detected input / CD DRF input.
2	I-$\overline{\text{IFC}}$/I-SUBQ	I	Tune IF count serial data input / CD SUBQ input.
3	O-2PB	O	DECK2 playback switch output.
4	O-POWER	O	System power supply ON/OFF output.
5	O-CD-ON	O	CD power ON/$\overline{\text{OFF}}$ output.
6	O-PLL-DATA	O	LED driver, TUNER IC, FUNCTION IC data output.
7	O-RMT	O	DECK2 record mute output.
8	O-$\overline{\text{BIAS}}$	O	DECK2 bias ON/$\overline{\text{OFF}}$ output.
9	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$ output.
10	O-STB	O	Latch strobe output for LED driver IC.
11	O-$\overline{\text{CLK-SFT}}$	O	Micon clock shift output.
12	RESET	I	System reset.
13	NC	-	Not connected.
14	I-DISH	I	Latch strobe output for FRONT shift register.
15	VSS1	-	GND.
16	CF1	-	5.76MHz oscillator circuit.
17	CF2	-	5.76MHz oscillator circuit.
18	VDD1	-	Power supply input.
19	I-$\overline{\text{HOLD}}$	I	Power failure detected input.
20	I-KEY1	I	KEY input (A/D).
21	I-KEY2	I	KEY input (A/D).
22	I-KEY3	I	KEY input (A/D).
23	I-TU-SIG	I	Tuner signal input.
24	I-CDSW	I	CD mecanical switch A/D converter input.
25	I-SPEANA	I	A/D input for spectrum analyzer display.
26	I-RE-VOL	I	Rotary encoder input (VOL).
27	I-WRQ/I-RDS-CLK	I	CD WRQ input / Tune RDS clock input.
28	I-TM-BASE	I	Reference clock input for timer watch.
29	I-$\overline{\text{RMC}}$	I	System remote control signal input.
30 ~ 40	G11 ~ G1	O	FL grid output G11 ~ G1
41	NC	-	Not connected.
42 ~ 45	P35 ~ P32	O	FL segment output P35 ~ P32.
46	VDD3	-	Power supply input.
47 ~ 48	P31 ~ P30	O	FL segment output P31 ~ P30.
49	P29/O-SPEANA-C	O	FL segment output P29 / Spectrum analyzer band switching output.
50	P28/O-SPEANA-B	O	FL segment output P28 / Spectrum analyzer band switching output.
51	-VFL	-	Power supply input for FL display.
52	P27/O-SPEANA-A	O	FL segment output P27 / Spectrum analyzer band switching output.
53	P26	O	FL segment output P26.
54	P25/I-NO-CASINO	O/I	FL segment output P25 / NO CASINO DEMO input to diode (U only).
55	P24/I-KARAOKE	O/I	FL segment output P24 / KARAOKE input to diode (LH only).
56	P23/NO-DEMO	O/I	FL segment output P23 / NO DEMO input to diode (Not used).
57	P22/PRO LOGIC	O/I	FL segment output P22 / PRO LOGIC input to diode.(Not used)

Pin No.	Pin Name	I/O	Description
58	P21/RDS	O/I	FL segment output P21 / RDS input to diode (Not used).
59	P20/FM1	O/I	FL segment output P20 / FM1 input to diode (Not used).
60	P19/SW	O/I	FL segment output P19 / SW input to diode (Not used).
61	P18/LW	O/I	FL segment output P18 / LW input to diode (Not used).
62	P17/AMST	O/I	FL segment output P17 / AMST input to diode (Not used).
63	P16/AM10K	O/I	FL segment output P16 / AM10K input to diode.
64	P15/I-$\overline{\text{CST2}}$	O/I	FL segment output P15 / DECK2 cassette detect switch data input.
65	P14/I-$\overline{\text{REB}}$	O/I	FL segment output P14 / DECK2 side-B record OK switch data input (LH only).
66	P13/I-$\overline{\text{CAM2}}$	O/I	FL segment P13 output / DECK2 CAM switch data input.
67	P12/I-$\overline{\text{AUTO1}}$	O/I	FL segment P12 output / DECK1 AUTO STOP switch data input.
68	P11/I-$\overline{\text{AUTO2}}$	O/I	FL segment P11 output / DECK2 AUTO STOP switch data input.
69	P10/I-$\overline{\text{CAM1}}$	O/I	FL segment P10 output / DECK1 CAM STOP switch data input.
70	P9/I-$\overline{\text{CST1}}$	O/I	FL segment P9 output / DECK1 cassette detect switch data input.
71	P8/I-$\overline{\text{REA}}$	O/I	FL segment P8 output / DECK2 side A record OK switch data input.
72	VDD4	-	Power supply input.
73	P7/I-REV2	O/I	FL segment P7 output / DECK2 REVERSE mode input (LH only).
74	P6/I-REV1	O/I	FL segment P6 output / DECK1 REVERSE mode input (LH only).
75	P5/NO-ECO	O/I	FL segment P5 output / NO ECO mode input (LH only).
76 ~ 79	P4 ~ P1	O	FL segment output P4 ~ P1.
80	O-CD-CLOSE	O	CD TRAY CLOSE data input.
81	O-CD-OPEN	O	CD TRAY OPEN data input.
82	NC	-	Not connected.
83	I-JOG-A	I	Rotary encoder A input.
84	I-JOG-B	I	Rotary encoder B input.
85	O-DISH-FWD	O	CD turntable forward rotation output.
86	O-DISH-REV	O	CD turntable reverse rotation output.
87	O-PLL-CE	O	PLL IC chip enable output.
88	O-$\overline{\text{KSCAN}}$	O	Switch scan timing output.
89	VSS2	-	GND.
90	VDD2	-	Power supply input.
91	LED-$\overline{\text{STBY}}$	O	STANDBY LED output.
92	O-$\overline{\text{MOTOR}}$	O	DECK MOTOR ON/OFF output.
93	O-$\overline{\text{SOL1}}$	O	DECK1 solenoid output.
94	O-$\overline{\text{SOL2}}$	O	DECK2 solenoid output.
95	O-CD-DATA	O	CD DATA output.
96	O-CD LED	O	CD LED output.
97	O-CD-CLK	O	CD clock output.
98	O-CD CE	O	CD chip enable output.
99	I-RDS-DATA	I	RDS data input.(Not used)
100	O-PLL-CLK	O	PLL IC clock output.


A MAIN C.B
7
6
1
7
L802
L801
IC801
TP4 (DC BALANCE)
TP3 (DC BALANCE)
TP2 (CLK)
12
SFR451
SFR452
L951
4
(3/3) (1/3)
TP8 (RCH)
GND
TP9 (LCH)
TP1 (VT)
2
3
FFE831
4 9
5 10
6 11
7 12
8 13


(U)
DECK–1 P HEAD
DECK–2 R/P/E HEAD
9
FWD
9
REV
D DECK C.B
SFR1
8
(LH)
DECK–1 P HEAD
DECK–2 R/P/E HEAD
9
REV
9
FWD


B FRONT C.B
FL401
TP7
R268
C326
GND
30
IC201
1
L331
14

< TUNER SECTION >

1. Clock frequency Check
   Settings : • Test point : TP2
   Method : Set to AM 1710kHz and check that the test point is 2160kHz ± 45Hz.

2. AM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to AM 1710kHz, 530kHz and check that the test point is less than 8.5V (1710kHz) and more than 0.6V (530kHz).

3. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 0.5V (87.5MHz) and less than 8.0V (108.0MHz).

4. AM Tracking Adjustment
   Settings : • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location :
   L951(1/3) 1000kHz
   Method : Set to AM 1000kHz and adjust L951(1/3) so that the level at the test point becomes maximum.

5. FM Tracking Check
   Settings : • Test point : TP8(Lch), TP9(Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9dBμV.

6. AM(MW) IF Adjustment
   Settings : • Test point : TP5(Lch), TP6(Rch)
   • Adjustment location :
   L802 ..... 1000 kHz

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   : TP8(Lch), TP9(Rch) (Distortion)
   • Adjustment location : L801
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L801 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

< DECK SECTION >

8. Tape Speed Adjustment (DECK 2)
   Settings : • Test tape : TTA–100
   • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz and ±45Hz (REV) with respect to forward speed.

9. Head Azimuth Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–330
   • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on REV PLAY mode.

10. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–300
    • Test point :TP8(Lch), TP9(Rch)
    Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 5dB.

11. PB Sensitivity Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8(Lch), TP9(Rch)
    Method : Play back the test tape and check that the output level of the test point is 140mV ± 3dB.

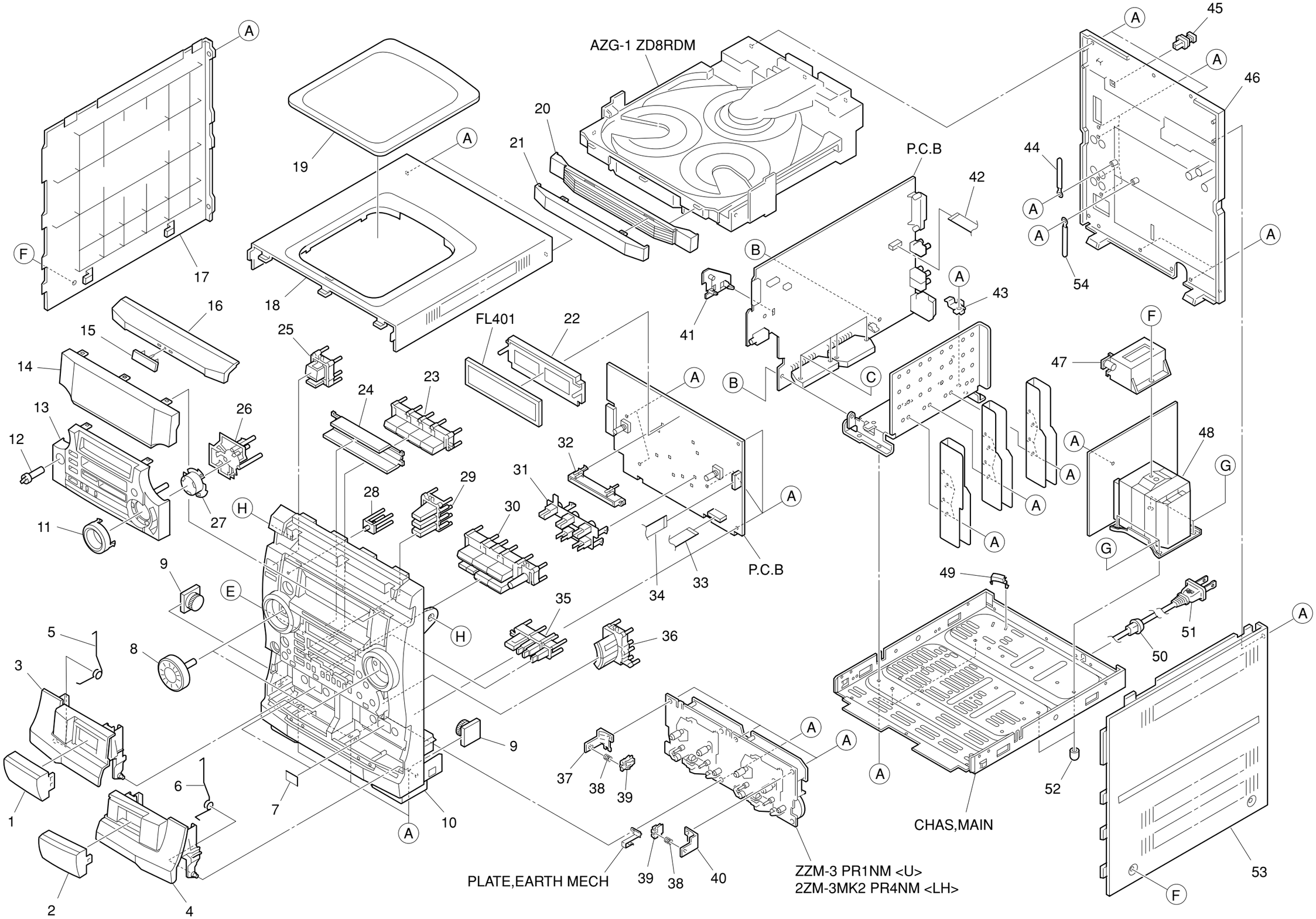
12. REC/PB Frequency Response Adjustment (DECK 2)
    Settings : • Test tape : TTA–602
    • Test point : TP8(Lch), TP9(Rch)
    • Input signal : 1kHz / 8kHz (LINE IN)
    • Adjustment location : SFR451 (Lch)
    SFR452 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes -20VU. Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

13. REC/PB Sensitivity Check (DECK 2)
    Settings : • Test tape : TTA–602
    • Test point : TP8(Lch), TP9(Rch)
    • Input signal : 1kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP8, TP9 becomes 0VU. Record and play back the 1kHz signals and check that the output is –2dB ± 3.0dB.

< FRONT SECTION >

14. μ-CON OSC Adjustment
    Settings : • Test point : TP7 and GND
    • Adjustment location : L331
    Method : Insert AC plug while pressing POWER and TUNER function keys. Adjust L331 so that the frequency at the test point is 153.84Hz ± 0.15Hz.

MECHANICAL EXPLODED VIEW 1 / 1



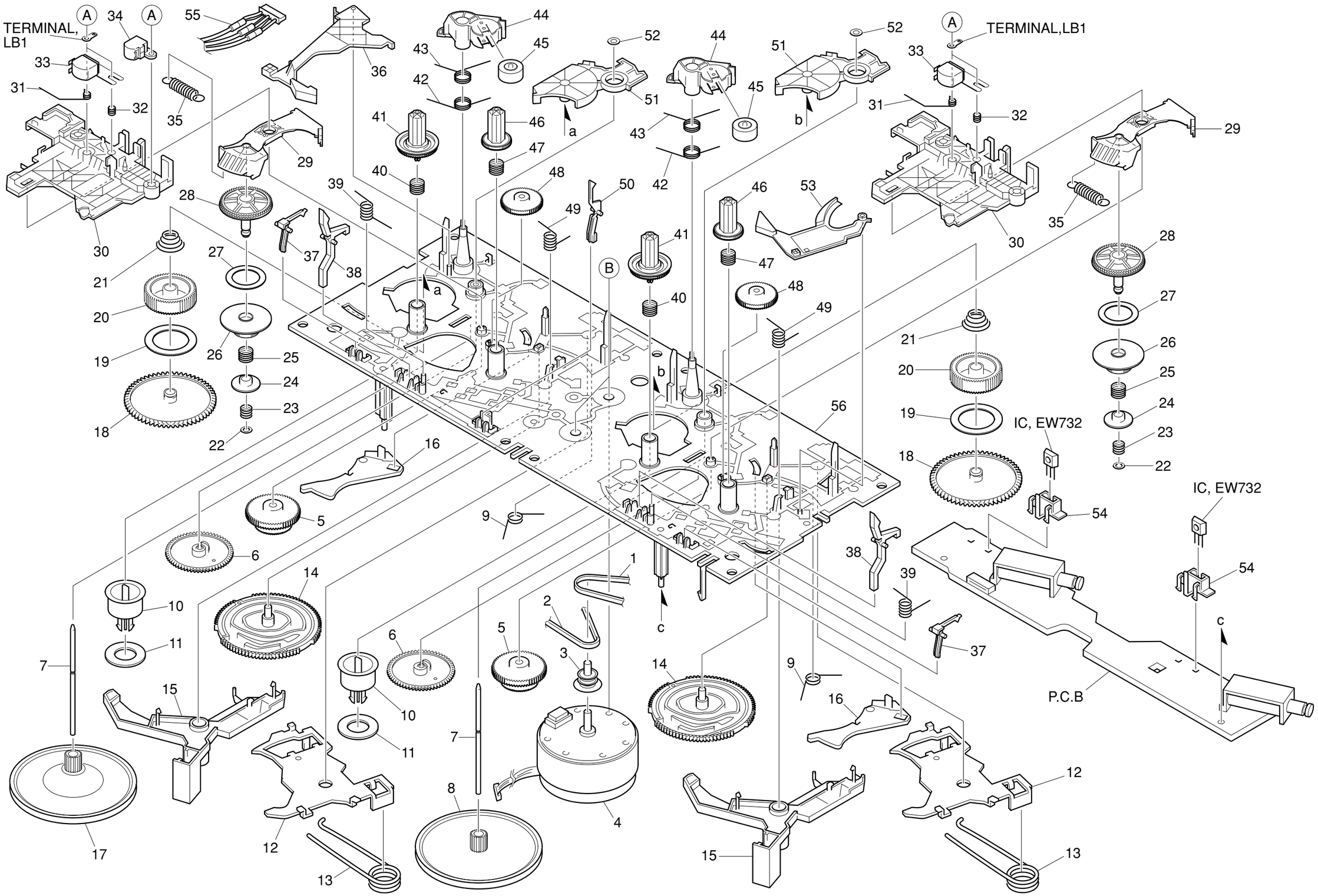
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF8-014-010		WINDOW,CASS 1
2	8A-NF8-015-010		WINDOW,CASS 2
3	8A-NF8-003-010		BOX,CASS 1 U<U>
3	8A-NF8-042-010		BOX,CASS 1H<LH>
4	8A-NF8-004-010		BOX,CASS 2 U<U>
4	8A-NF8-043-010		BOX,CASS 2H<LH>
5	8A-NF8-207-010		SPR-T,EJECT 1<U>
5	82-NF5-218-010		SPR-T,EJECT 1 (SIN)<LH>
6	8A-NF8-208-010		SPR-T,EJECT 2<U>
6	82-NF5-219-010		SPR-T,EJECT 2 (SIN)<LH>
7	81-532-080-010		LABEL, CASS. COMPT
8	8A-NF8-019-010		KNOB,RTRY JOG
9	87-NF8-220-010		DMPR,150<LH>
9	8A-NF8-209-010		OIL-DMPR,120<U>
10	8A-NF8-001-010		CABI,FR U
11	8A-NF8-034-010		PANEL,DIRECT
12	8A-NF8-030-010		KNOB,RTRY MIC<LH>
13	8A-NF8-044-010		PANEL,FR H<LH>
13	8A-NF8-013-010		PANEL,FR U<U>
14	8A-NF8-046-010		WINDOW,DISP H<LH>
14	8A-NF8-012-010		WINDOW,DISP U<U>
15	87-CE3-023-010		BADGE,AIWA 30N SILV
16	8A-NF8-009-010		PANEL,CD
17	8A-NF8-007-010		PANEL,LEFT V-2
18	8A-NF8-005-010		PANEL,TOP
19	8A-NF8-006-010		WINDOW,TOP
20	8A-NF8-010-010		PANEL,TRAY
21	8A-NF8-011-010		WINDOW,TRAY
22	88-NF8-205-010		GUIDE,FL
23	8A-NF8-020-010		KEY,FUN
24	8A-NF8-018-010		REFLECTOR,FUN
25	8A-NF8-016-010		KEY,POWER
26	8A-NF8-031-010		KEY,DISC
27	8A-NF8-032-010		CAP, DISC
28	8A-NF8-017-010		REFLECTOR,ECO
29	8A-NF8-022-010		KEY,GEQ
30	8A-NF8-035-010		KEY,ASSY OPE 1WAY<U>
30	8A-NF8-036-010		KEY,ASSY OPE REV<LH>
31	8A-NF8-202-010		GUIDE,OPE 1WAY<U>
31	8A-NF8-203-010		GUIDE,OPE REV<LH>
32	8A-NF8-201-010		GUIDE,FUN
33	88-911-101-110		FF-CABLE,11P 1.25<U>
33	88-915-101-110		FF-CABLE 15P 1.25 100MM<LH>
34	88-913-301-110		FF-CABLE,13P-1.25
35	8A-NF8-037-010		KEY,CD EDIT H<LH>
35	8A-NF8-028-010		KEY,CD EDIT U<U>
36	8A-NF8-029-010		KEY,OPEN
37	87-NF4-216-010		HLDR,LOCK 1
38	86-NF9-224-010		SPR-C,LOCK
39	82-NF5-229-010		PLATE,LOCK
40	87-NF4-217-110		HLDR,LOCK 2
41	8A-NF8-206-010		HLDR,PWB M
42	88-906-251-110		FF-CABLE,6P 1.25
43	8A-NF8-205-010		HLDR,IC
44	87-064-185-010		HLDR,WIRE PVC 0.5<U>
45	84-ZG1-245-210		CAP,OPTICAL
46	8A-NF8-062-010		CABI,REAR LHSM<LH>
46	8A-NF8-002-010		CABI,REAR USM<U>
47	8A-DB8-209-010		HLDR,PWB PT
⚠ 48	8A-NF8-605-010		PT,ANF-8 LH<LH>
⚠ 48	8A-NF8-604-010		PT,ANF-8 U<U>
49	87-NF4-221-010		HLDR,CABLE
50	87-085-185-010		BUSHING, AC CORD (E)<LH>
50	87-A91-422-010		BUSHING,AC CORD(U)<U>
⚠ 51	87-A80-092-010		AC CORD ASSY,E BLK SUN FAI<LH>
⚠ 51	87-A80-110-010		AC CORD ASSY,U SPT-2W<U>
52	8Z-NB8-240-010		COVER, PL
53	8A-NF8-008-010		PANEL,RIGHT V-2
54	87-064-080-010		BINDER, WIRE
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
C	87-067-581-010		TAPPING SCREW, BVT2+3-15
D	87-067-688-010		BVTT+3-6
E	87-723-096-410		QT2+3-10W/O SLOT BL
F	87-067-641-010		UTT2+3-8(W/O SLOT)BL
G	87-078-191-010		S-SCREW,IT+4-10
H	87-721-097-410		QT2+3-12 GLD

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange		

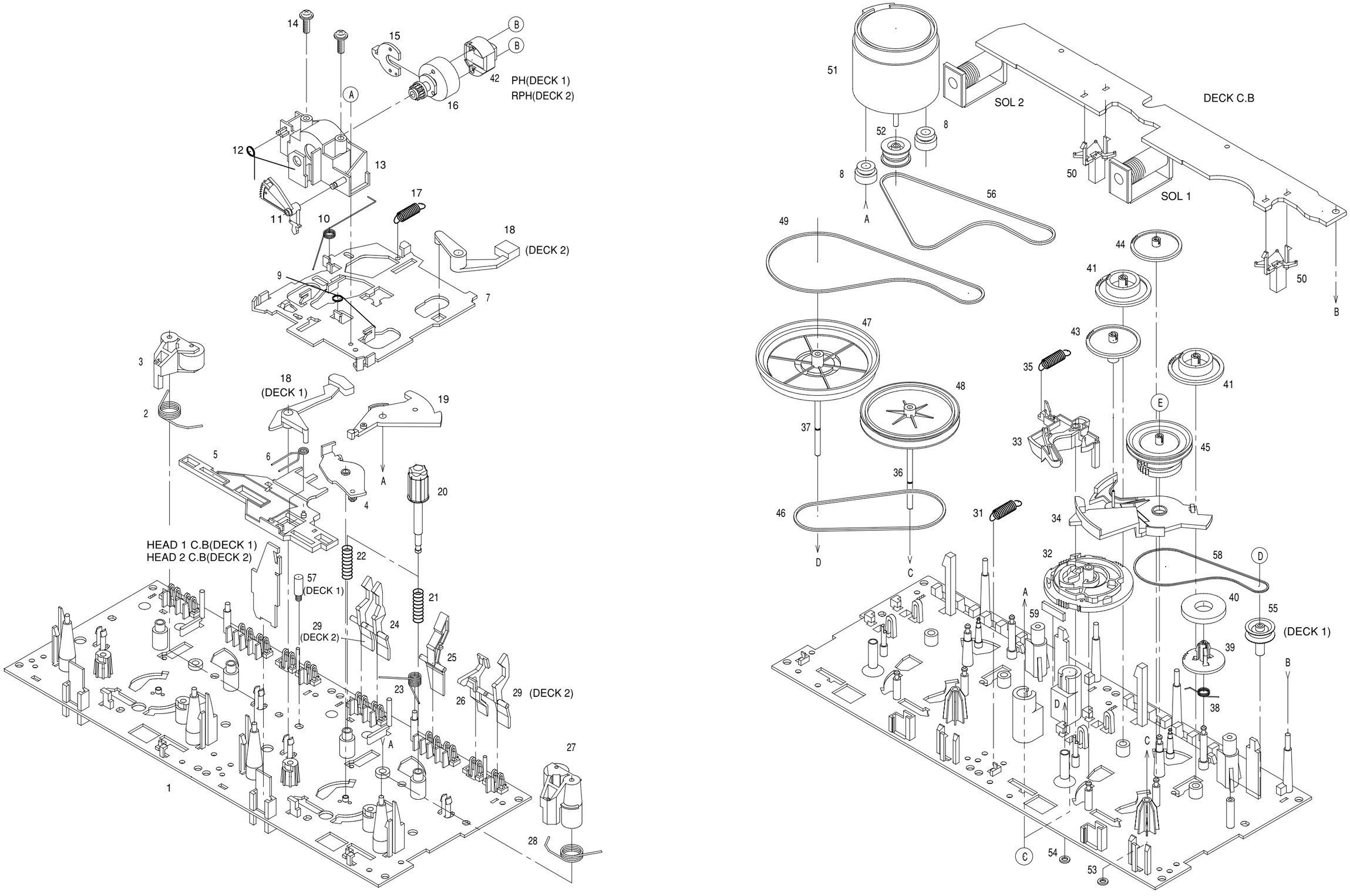
TAPE MECHANISM EXPLODED VIEW 1 / 1 < U : ZZM-3 PR1NM >



TAPE MECHANISM PARTS LIST 1 / 1 < U: ZZM-3 PR1NM >

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM3-227-010		BELT,MAIN M3
2	8Z-ZM3-235-010		BELT,MAIN L
3	8Z-ZM1-235-010		PULLEY,MOT
4	87-045-347-010		MOT,SHU2L 70
5	8Z-ZM1-232-010		GEAR,IDL FF/REW
6	8Z-ZM3-244-010		GEAR,CAM TD20
7	8Z-ZM3-242-010		SHAFT,CAP M3
8	8Z-ZM3-228-010		FLY-WHL,M3
9	8Z-ZM3-231-010		SPR-T,TRIG
10	8Z-ZM3-213-010		CLR,MG
11	82-ZM3-616-010		RING MAGNET 4
12	8Z-ZM3-243-010		LEVER ASSY,HD UP
13	8Z-ZM3-238-010		SPR-T,HD UP
14	8Z-ZM3-219-010		GEAR,CAM M3
15	8Z-ZM3-206-010		LEVER,TRIG
16	8Z-ZM3-209-010		LEVER,CAM FR
17	8Z-ZM2-211-010		FLY-WHL,ZZM-2
18	8Z-ZM1-228-010		GEAR,SLIP T-UP B
19	8Z-ZM1-265-010		FELT,T-UP
20	8Z-ZM1-227-010		GEAR,SLIP T-UP A
21	8Z-ZM1-251-110		SPR-C,T-UP SLIP
22	8Z-ZM1-275-010		W-L,1,47-4-0.25
23	8Z-ZM1-257-010		SPR-C,F/R
24	8Z-ZM1-236-010		CLR,SLIP FF/REW
25	8Z-ZM3-226-010		SPR-C,FR M3
26	8Z-ZM3-250-010		GEAR,SLIP F/R A M3
27	8Z-ZM1-269-010		FELT,FF/REW 2
28	8Z-ZM1-238-110		GEAR,SLIP FF/REW B 2
29	8Z-ZM3-220-010		LEVER,FR M3
30	8Z-ZM3-205-010		LEVER,PLAY M3
31	8Z-ZM3-233-010		SPR-T,BRG M3
32	84-ZM2-227-310		SPR-C,AZIMUTH
33	87-A90-403-110		HEAD,RPH MS15R
34	87-A90-404-010		HEAD,EH LE15B
35	8Z-ZM3-239-010		SPR-E,FR
36	8Z-ZM3-211-010		LEVER,EJECT R
37	8Z-ZM3-225-010		LEVER,STOP
38	8Z-ZM3-221-010		LEVER,CAS
39	8Z-ZM3-234-010		SPR-T,LVR CAS
40	8Z-ZM3-223-010		SPR-C,REEL R M3
41	8Z-ZM1-225-110		GEAR,REEL R
42	8Z-ZM3-240-010		SPR-T,T-UP M3
43	8Z-ZM3-237-010		SPR-T,PINCH M3
44	8Z-ZM3-215-010		LEVER,PINCH M3
45	8Z-ZM1-261-110		ROLLER ASSY,PINCH
46	8Z-ZM1-226-010		GEAR,REEL L
47	8Z-ZM3-222-010		SPR-C,REEL L M3
48	8Z-ZM3-251-010		GEAR,IDL REW M3
49	8Z-ZM3-236-010		SPR-T,PLAY M3
50	82-ZM1-240-110		LVR,REC(*)
51	8Z-ZM3-216-010		LEVER,T-UP M3
52	87-B10-301-010		W-L,1.63-3.2-05 SLIT
53	8Z-ZM3-212-010		LEVER,EJECT L
54	8Z-ZM3-214-010		HLDR,IC
55	86-ZM3-605-110		CONN ASSY,8P -RPB
56	8Z-ZM3-203-010		CHAS ASSY,M3
A	84-ZM2-242-010		S-SCREW,AZ1-2-6.4
B	8Z-ZM2-220-110		V+2.6 ZZM-2

TAPE MECHANISM EXPLODED VIEW 1 / 1 < LH : 2ZM-3MK2 PR4NM >



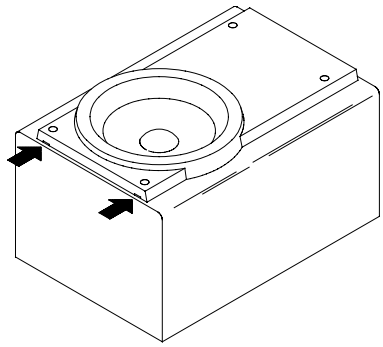
TAPE MECHANISM PARTS LIST 1 / 1 < LH: 2ZM-3MK2 PR4NM >

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-319-010		HEAD,PH HADKH2 FPC
42	87-A90-320-010		HEAD,RPH HADKH5 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

SPEAKER DISASSEMBLY INSTRUCTIONS

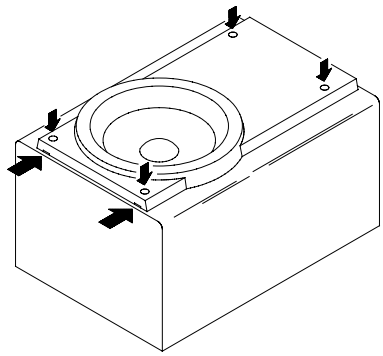
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



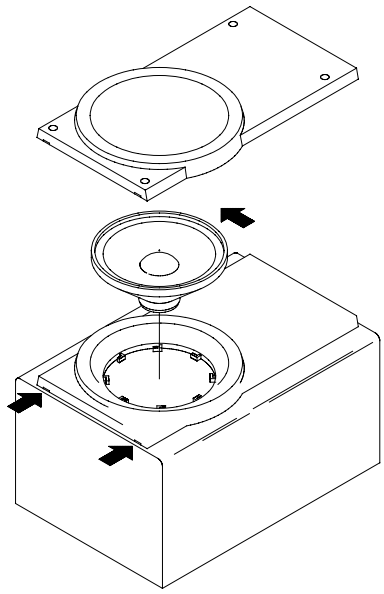
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

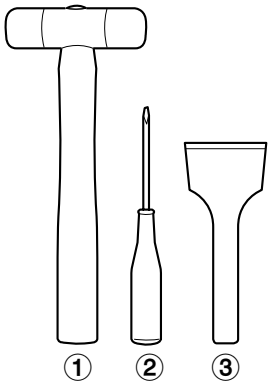


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.

2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.

3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

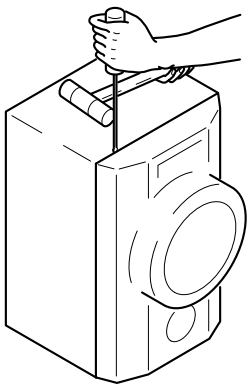


Fig-1

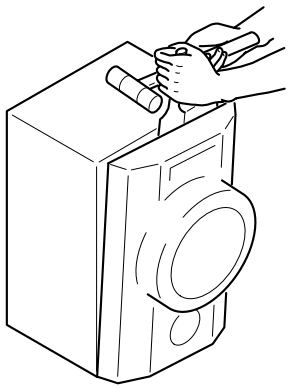


Fig-2

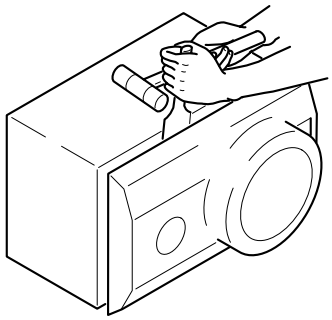


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST
SX-WNAJ50 (YUSL), SX-WNAJ50 (YLSL)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NS8-009-010		PANEL,FR U<YUSL>
1	8A-DS8-001-010		PANEL,FR<YLSL>
2	8A-DS8-004-010		PANEL,DUCT
3	8A-NS8-006-010		GRILLE,FRAME ASSY U<YUSL>
3	8A-DS8-005-010		GRILLE,FRAME ASSY <YLSL>
4	8A-DS8-009-010		PROTECTOR
5	88-NS5-610-010		CORD,SPKR
6	88-NS5-611-010		CORD,SPKR B/L
7	8Z-NSY-003-010		CORD,BUSH
8	88-NS3-029-010		CORD,BUSH L
9	8Z-NS7-602-010		SPKR,W 160
10	8Z-NSY-604-010		SPKR,M 100
11	8Z-NSY-608-010		SPKR,CERAMIC ASSY

ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF8-903-010		IB,U (ESF) M<U>
1	8A-NF8-902-010		IB,LH (ESP) M<LH>
2	87-006-225-010		AM LOOP ANT NC2
3	87-043-115-010		ANT,FEEDER FM
⚠ 4	87-A91-017-010		PLUG,CONVERSION JT-0476<LH>
5	8Z-NF9-702-010		RC UNIT,RC-ZAS02<U>
5	8Z-NF8-702-010		RC UNIT,RC-ZAS01<LH>

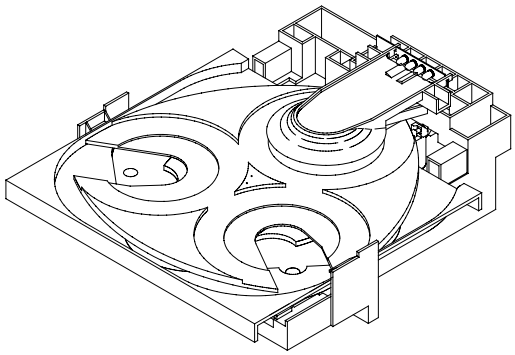
アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111

9820527 0251431 Printed in Singapore

aiwa SERVICE

AZG-1

English



SERVICE MANUAL

CD-R/RW MECHANISM

BASIC CD MECHANISM:KSM-880CAB

TYPE
ZD8RD
YZD8RMDJM
ZD8RMDJM
ZD8RDNDM
YKZD8RDF
ZD8RDM
YZD8RDM
ZD8RN1DM
YZD8RDJM

aiwa

S/M Code No. 09-001-335-3N6

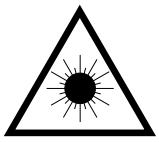
DATA

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

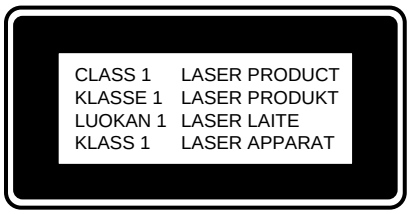
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

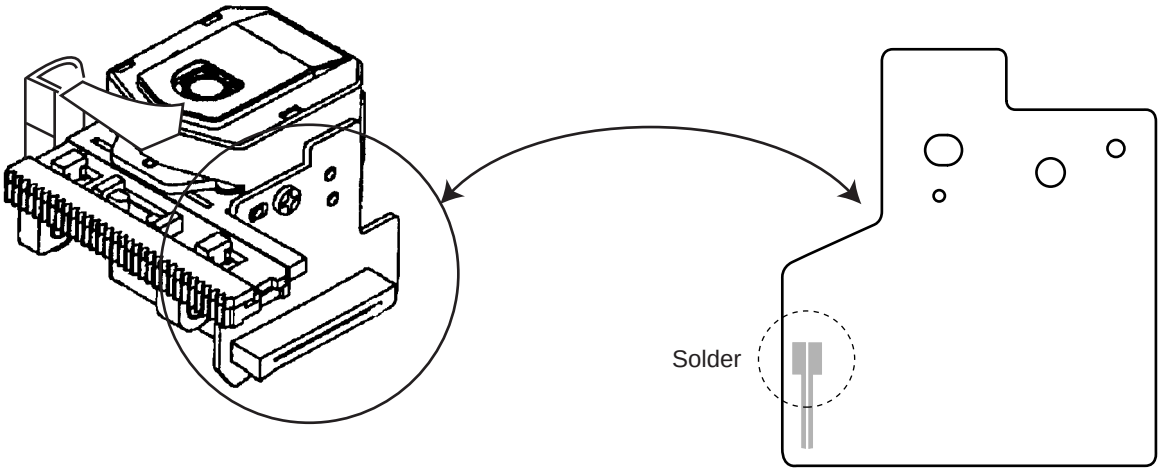
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

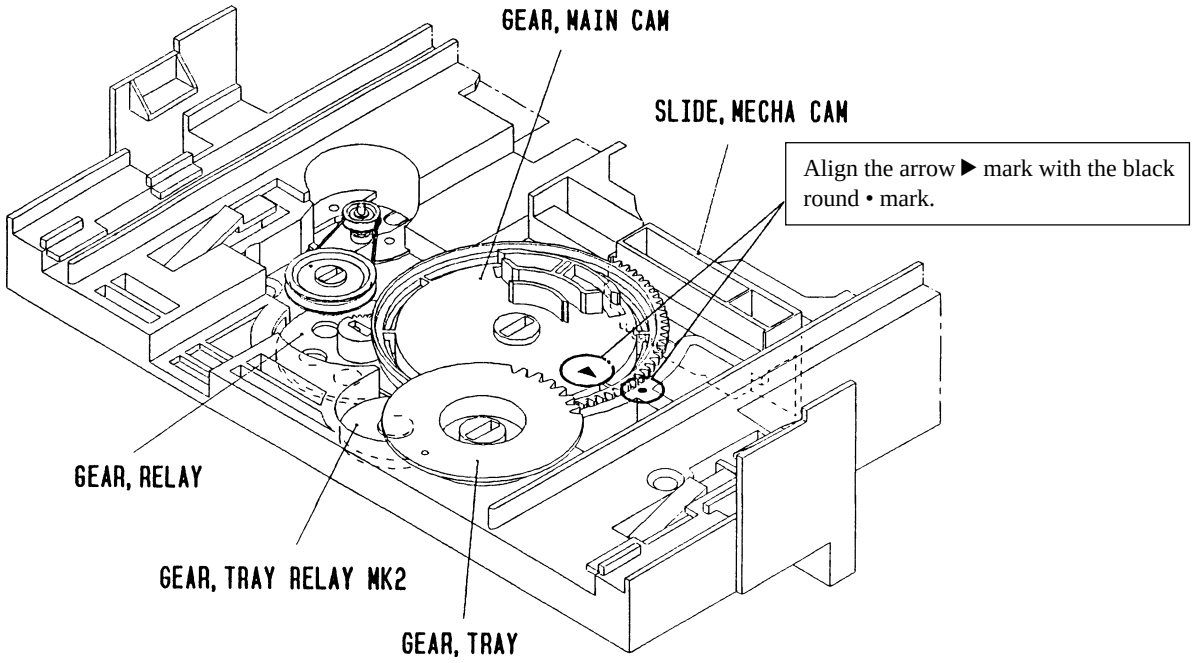
1) After the connection, remove solder shown in the figure below.



How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

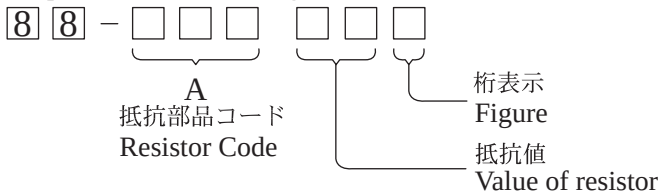
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-381-040		C-IC,LA9235M
	87-A21-556-010		C-IC,LC78641E
	87-A21-414-010		IC,BA5927S
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-497-080		TR,2SA1980Y/G
	87-A30-087-080		C-FET,2SK2158
	87-026-237-080		CHIP-TR,DTC124XK <EXCEPT ZD8RN1DM,YZD8RDM>
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-A40-270-080		C-DIODE,MC2838
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-003-080		ZENER,MTZJ4.3A
	87-A40-337-080		ZENER,MTZJ6.8B
	87-A40-313-080		C-DIODE,MC2840
3CD C.B			
C1	87-010-374-080		CAP,E 47-10
C2	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C2	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C3	87-010-260-080		CAP, ELECT 47-25V
C4	87-010-260-080		CAP, ELECT 47-25V
C5	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C5	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C6	87-010-405-080		CAP, ELECT 10-50V
C7	87-010-263-080		CAP, ELECT 100-10V
C8	87-012-349-080		C-CAP,S 1000P-50 CH
C10	87-010-546-080		CAP,E 0.33-50
C11	87-010-401-080		CAP, ELECT 1-50V
C13	87-010-321-020		C-CAP,S 82P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C13	87-010-321-080		C-CAP,S 82P-50 J CH <YKZD88RDF,ZD8RD>
C15	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C15	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C16	87-010-260-080		CAP, ELECT 47-25V
C101	87-010-992-080		C-CAP,S 0.047-25 B
C102	87-010-401-080		CAP, ELECT 1-50V
C103	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C103	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C104	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C104	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C105	87-010-260-080		CAP, ELECT 47-25V
C106	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C106	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C107	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C107	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C108	87-010-186-080		CAP,CHIP 4700P<YKZD88RDF,ZD8RD>
C108	87-010-186-020		CAP,CHIP 4700P <EXCEPT YKZD88RDF,ZD8RD>
C109	87-010-992-080		C-CAP,S 0.047-25 B
C110	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C110	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C111	87-010-260-080		CAP, ELECT 47-25V
C112	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C112	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C114	87-010-260-080		CAP, ELECT 47-25V
C115	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C115	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C116	87-010-260-080		CAP, ELECT 47-25V
C117	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C117	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C118	87-010-260-080		CAP, ELECT 47-25V
C119	87-015-819-080		
C120	87-010-312-080		C-CAP,S 15P-50 CH <YKZD88RDF,ZD8RD>
C120	87-010-312-020		C-CAP,S 15P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C121	87-010-312-020		C-CAP,S 15P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C121	87-010-312-080		C-CAP,S 15P-50 CH <YKZD88RDF,ZD8RD>
C122	87-010-404-080		CAP, ELECT 4.7-50V
C123	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C123	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C124	87-010-401-080		CAP, ELECT 1-50V
C126	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C126	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C128	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C128	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C130	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C130	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C132	87-010-405-080		CAP, ELECT 10-50V
C133	87-010-314-020		C-CAP,S 22P-50V <EXCEPT YKZD88RDF,ZD8RD>
C133	87-010-314-080		C-CAP,S 22P-50V<YKZD88RDF,ZD8RD>
C135	87-A11-088-080		CAP,TC U 100P-50 J CH
C151	87-010-405-080		CAP, ELECT 10-50V
C152	87-010-405-080		CAP, ELECT 10-50V
C192	87-012-349-080		C-CAP,S 1000P-50 CH
C193	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C193	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C201	87-A10-730-080		CAP,E 1000-16 SMG
C202	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C202	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C204	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C204	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C205	87-010-405-080		CAP, ELECT 10-50V
C206	87-010-405-080		CAP, ELECT 10-50V
C207	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C207	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C301	87-010-382-080		CAP, ELECT 22-25V
C302	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C302	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C303	87-010-260-080		CAP, ELECT 47-25V
C401	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C401	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C402	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C402	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C403	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C403	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C404	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C404	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C405	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C405	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C406	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C406	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C407	87-010-405-080		CAP, ELECT 10-50V
C454	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C454	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C601	87-010-260-080		CAP, ELECT 47-25V
C602	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C602	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
CN1	87-A60-429-010		CONN,16P H TOC-A
CN201	84-ZG1-648-010		CONN ASSY,6P
CN202	87-A60-130-010		CONN,5P V
CN501	84-ZG1-647-010		CONN ASSY,2P <EXCEPT ZD8RN1DM,ZD8RNDM>
CN601	87-009-345-010		CONN,2P PH V <EXCEPT ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RNDM>
CON401	87-099-030-010		CONN,13P 6216H
FB601	87-008-372-080		FLTR,EMI BL01 RN1 <EXCEPT ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RNDM>
FB602	87-008-372-080		FLTR,EMI BL01 RN1
LED601	87-A40-558-010		LED,SLZ-8128A-01-A
M201	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
SW201	87-036-109-010		SW,MICRO SPPB61
SW202	87-036-109-010		SW,MICRO SPPB61
X101	87-A70-046-010		VIB,XTAL 16.934MHZ
LED. C.B			
LED501	87-A40-263-080		LED,SLH-56PCT31 GRN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED502	87-A40-263-080		LED,SLH-56PCT31 GRN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED503	87-A40-268-080		LED,SLH-56DCT31 ORN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED504	87-A40-268-080		LED,SLH-56DCT31 ORN <EXCEPT ZD8RN1DM,ZD8RNDM>
T-T C.B			
C401	87-018-214-080		CAP TC U 0.1-50F
CON401	86-NFZ-675-010		CONN,5P H 6216-11H
M401	87-045-364-010		MOTOR(BCH3B14)
PS401	87-026-573-010		SNSR,PHOTO GP1S53V
MOTOR C.B			
PIN3	91-564-722-110		CONN,PIN 6P
SW1	91-572-085-110		LEAF SWITCH

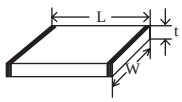
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

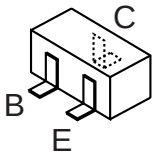
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

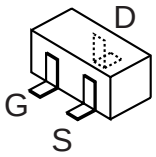
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

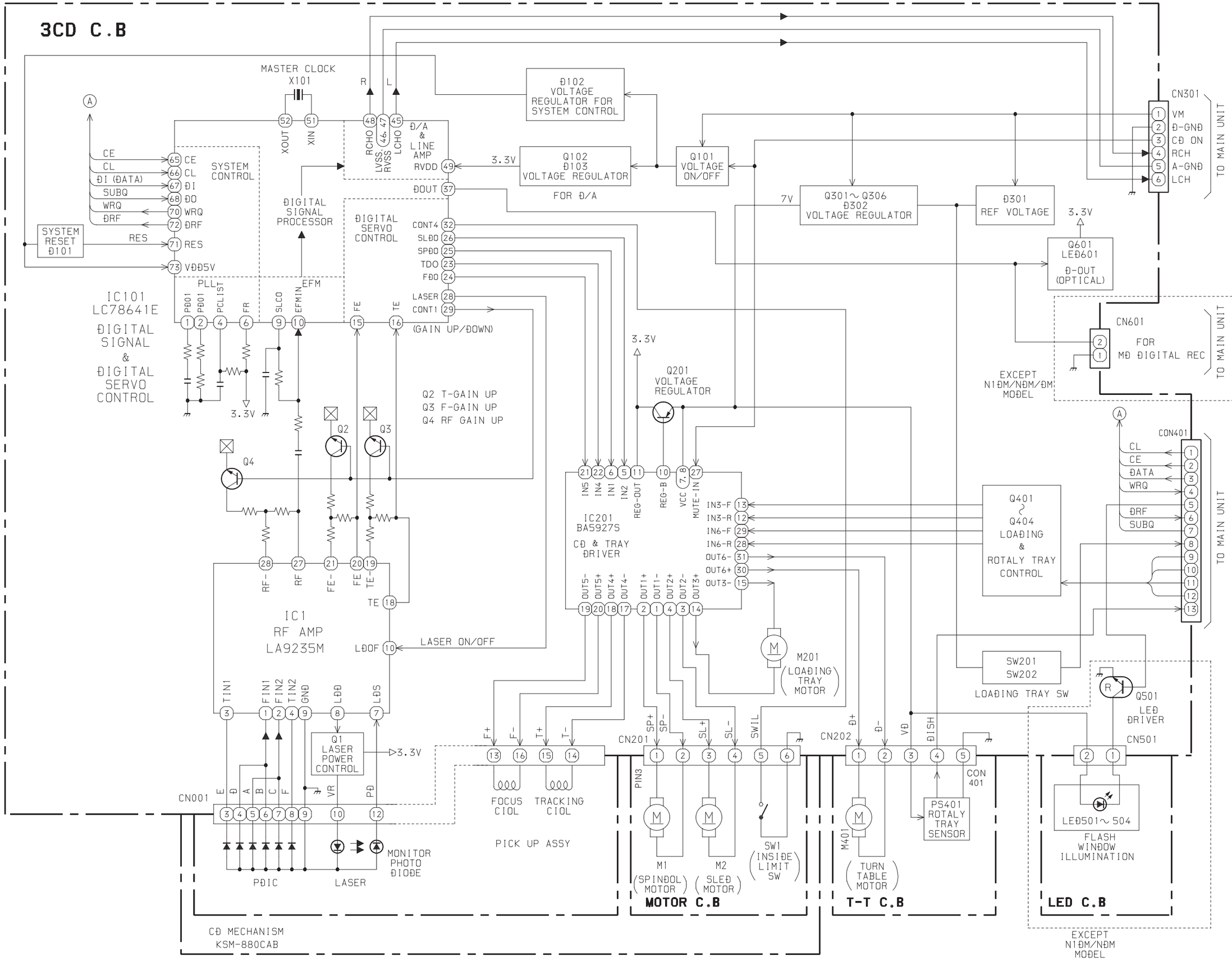


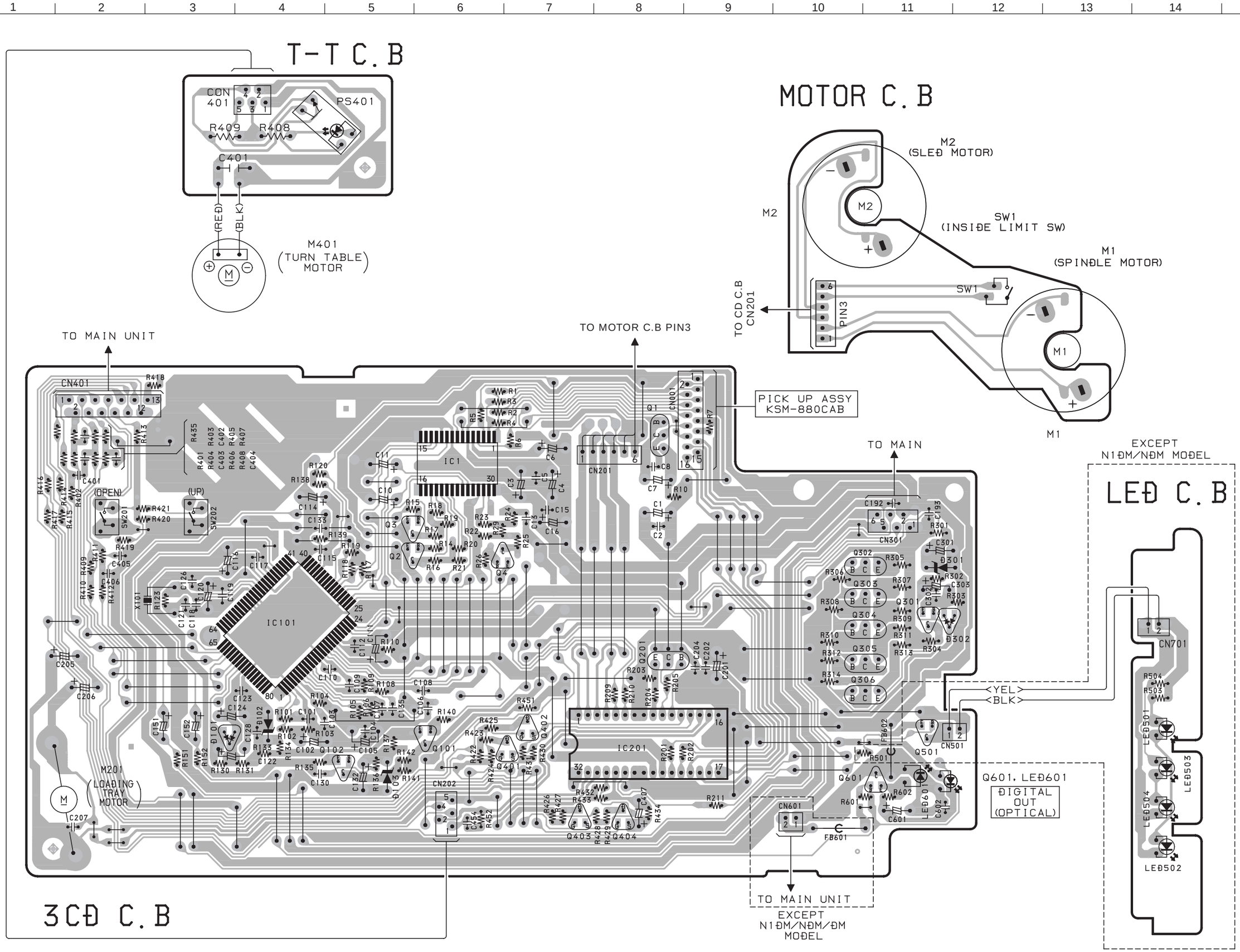
2SA1235F
2SC3052F
DTC124XK

2SA1980Y/G
KTA1266GR

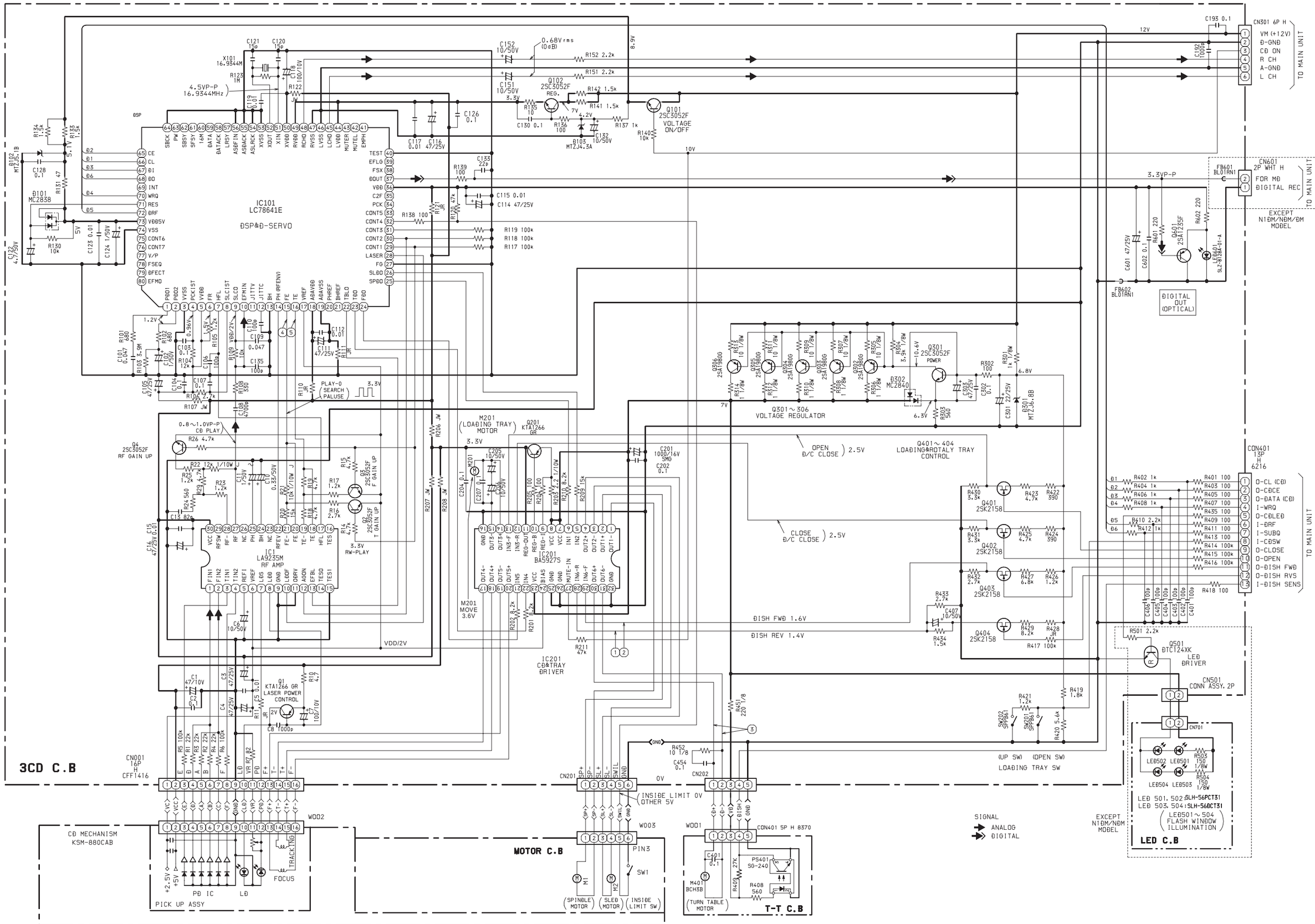


2SK2158


3CD C.B
MASTER CLOCK
X101
XOUT
XIN
R
L
RCHO
LVSS
RVSS
LCHO
Đ/A & LINE AMP
Đ102 VOLTAGE REGULATOR FOR SYSTEM CONTROL
Q102 Đ103 VOLTAGE REGULATOR
FOR Đ/A
Q101 VOLTAGE ON/OFF
3.3V
RVDD
ĐOUT
CE
CL
Đ I (ĐATA)
SUBQ
WRQ
ĐRF
RES
VĐĐ5V
SYSTEM CONTROL
SYSTEM RESET Đ101
ĐIGITAL SIGNAL PROCESSOR
ĐIGITAL SERVO CONTROL
CONT4
SLĐO
SPĐO
TDO
FĐO
LASER
CONT1
(GAIN UP/ĐOWN)
PLL
EFM
IC101
LC78641E
ĐIGITAL SIGNAL & ĐIGITAL SERVO CONTROL
PĐO1
PDO1
PCLIST
FR
SLCO
EFMIN
FE
TE
Q2 T-GAIN UP
Q3 F-GAIN UP
Q4 RF GAIN UP
Q2
Q3
Q4
Q201 VOLTAGE REGULATOR
7V
Q301~Q306 Đ302 VOLTAGE REGULATOR
Đ301 REF VOLTAGE
Q601 LEĐ601 Đ-OUT (OPTICAL)
CN301
VM
Đ-GNĐ
CĐ ON
RCH
A-GNĐ
LCH
TO MAIN UNIT
CN601
FOR MĐ ĐIGITAL REC
EXCEPT N1ĐM/NĐM/ĐM MOĐEL
CON401
CL
CE
ĐATA
WRQ
ĐRF
SUBQ
IC201
BA5927S
CĐ & TRAY ĐRIVER
IN5
IN4
IN1
IN2
REG-O
REG-B
VCC
MUTE-IN
IN3-F
IN3-R
IN6-F
IN6-R
OUT6-
OUT6+
OUT3-
OUT5-
OUT5+
OUT4+
OUT4-
OUT1+
OUT1-
OUT2+
OUT2-
OUT3+
Q401 ~ Q404 LOAĐING & ROTALY TRAY CONTROL
SW201 SW202
LOAĐING TRAY SW
M201 (LOAĐING TRAY MOTOR)
M
IC1
RF AMP
LA9235M
RF-
RF
FE-
FE
TE-
TE
LĐOF
LASER ON/OFF
TIN1
FIN1
FIN2
TIN2
GND
LĐĐ
LĐS
Q1 LASER POWER CONTROL
VR
PĐ
CN001
E
Đ
A
B
C
F
PĐIC
LASER
MONITOR PHOTO ĐIOĐE
F+
F-
T+
T-
FOCUS CIOL
TRACKING CIOL
PICK UP ASSY
CN201
SP+
SP-
SL+
SL-
SWIL
PIN3
M1 (SPINĐOL MOTOR)
M2 (SLEĐ MOTOR)
SW1 (INSIĐE LIMIT SW)
MOTOR C.B
CN202
Đ+
Đ-
VĐ
ĐISH
M401
TURN TABLE MOTOR
PS401 ROTALY TRAY SENSOR
CON 401
T-T C.B
Q501 LEĐ ĐRIVER
CN501
LEĐ501~504
FLASH WINĐOW ILLUMINATION
LED C.B
EXCEPT N1ĐM/NĐM MOĐEL
CĐ MECHANISM KSM-880CAB


T-T C.B
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE MOTOR)
MOTOR C.B
M2
(SLED MOTOR)
M2
SW1
(INSIDE LIMIT SW)
M1
(SPINDLE MOTOR)
SW1
PIN3
TO CD C.B
CN201
M1
TO MAIN UNIT
TO MOTOR C.B PIN3
PICK UP ASSY
KSM-880CAB
TO MAIN
EXCEPT
N1DM/NDM MODEL
LED C.B
CN401
R418
(OPEN)
(UP)
SW201
SW202
M201
(LOADING TRAY MOTOR)
IC1
IC101
IC201
CN201
CN001
CN202
CN601
CN301
CN501
CN701
Q1
Q2
Q3
Q4
Q101
Q102
Q201
Q301
Q302
Q303
Q304
Q305
Q306
Q401
Q402
Q403
Q404
Q501
Q601
FB601
FB602
X101
D101
D102
D301
D302
LED501
LED502
LED503
LED504
LED601
<YEL>
<BLK>
Q601, LED601
DIGITAL OUT (OPTICAL)
TO MAIN UNIT
EXCEPT
N1DM/NDM/DM
MODEL
3CD C.B

SCHEMATIC DIAGRAM



TEST MODE

1. How to Start the CD Test Mode

While pressing the CD function key, connect the AC power plug to wall outlet.
The test mode starts up and “CD TEST” appears on the display.

2. How to Exit the CD Test Mode

Press the POWER button or disconnect the AC power plug from wall outlet.
* When any function key other than PLAY is pressed during playback, the test mode is canceled.

3. Function and Use of the CD Test Mode

NO	MODE	How to enter the mode	Display	Operation	Check item
1	Start mode		All indicators turn on	• All FL all ndicators turn on	• FL check • Microprocessor check
2	Search mode	STOP button	CD	• LD turns on all the time • Focus search continuos operation *1 • Spindle motor continuos kick	• APC circuit check • Laser current measurement • Focus search waveform check • Focus error waveform check (Ignores DRF during search mode)
3	Play mode	PLAY button	Normal	• Normal playback • Focus search is continued if failed in TOC READ.	• Each servo circuit is checked • DRF check
4	Traverse mode	PAUSE button	Normal	• Tracking servo OFF/ON Repeats OFF/ON every time the PAUSE button is pressed	• Tracking balance check
5	Sled mode	FF button	CD TEST	• Moves PU to inner circumference *2 Kicks the lens to inner circumference at the same time	• Sled circuit check • Tracking circuit check • Mechanism operation check • PU check
		RWD button	CD TEST	• Moves PU to outer circumference *2 Kicks the lens to outer circumference at the same time	
6	Spindle mode	TAPE REC button	All indicators turn on	• Pressing the button once rotates the spindle motor in the normal direction (rough speed). Pressing the button again rotates it in the reverse direction. Pressing it again stops the motor	• Spindle circuit check • Spindle motor check
7	RF AGC mode	TUNER button	AGC ON/OFF	• Repeats ON/OFF every time the TUNER button is pressed	• PU good or defective check • RF AMP circuit check

*1 ..... When the focus search keeps running for 10 minutes or longer continuously, the driver IC heats up, and the protective circuit works so that the machine may stops operating.
In this case, turn off the main power, wait for a while and restart the machine.

*2 ..... Do not keep pressing the FF or RWD button while the pickup is located at the innermost or outermost circumference because the gear can be damaged as the sled motor keeps rotating.

4. Automatic Adjustment Result Display

The automatic adjustment values of the focus and the tracking can be displayed.

4-1. Automatic Adjustment Result Display of Focus Offset Cancel/Gain

1) Enter the start mode (all indicators turn on).
2) Press the TAPE button to display “F**” and set each of the adjustment item to either ON or OFF. (Refer to the following table.)
3) Press the PLAY button to play back the CD.
4) Press the CD button.
5) The automatic adjustment value “F** **” is displayed. (Refer to the following table.)
6) Upon completion of check, press the CD button twice to return to the play mode.

Adjustment item (ON = 1, OFF = 0)			Automatic adjustment value display (Asterisk * means hexadecimal display.)			
F	OFFSET	GAIN	F	OFFSET	—	GAIN
F	0	0	F	Not displayed	Not displayed	Not displayed
F	1	1	F	**	Not displayed	**
F	1	0	F	**	Not displayed	Not displayed
F	0	1	F	Not displayed	Not displayed	**

4-2. Automatic Adjustment Result Display of Tracking Offset Cancel/Balance/Gain

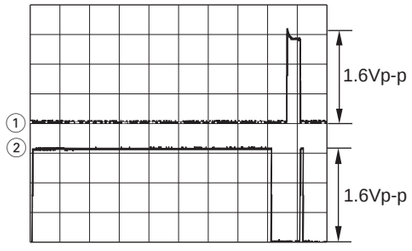
1) Enter the start mode (all indicators turn on).
2) Press the AUX button to display “T***” and set each adjustment item to either ON or OFF. (Refer to the following table.)
3) Press the PLAY button to play back the CD.
4) Press the CD button twice.
5) The automatic adjustment value “F******” is displayed. (Refer to the following table.)
6) Upon completion of check, press the CD button to return to the play mode.

Adjustment item (ON = 1, OFF = 0)				Automatic adjustment value display (Asterisk * means hexadecimal display.)			
T	OFFSET	BALANCE	GAIN	T	OFFSET	BALANCE	GAIN
T	0	0	0	T	Not displayed	Not displayed	Not displayed
T	1	1	1	T	**	**	**
T	1	1	0	T	**	**	Not displayed
T	1	0	1	T	**	Not displayed	**
T	1	0	0	T	**	Not displayed	Not displayed
T	0	1	1	T	Not displayed	**	**
T	0	1	0	T	Not displayed	**	Not displayed
T	0	0	1	T	Not displayed	Not displayed	**

WAVE FORM

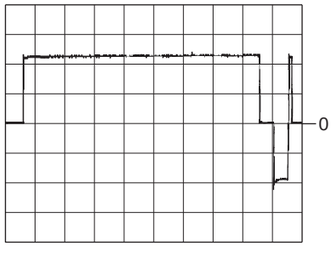
① IC201 ㉘ (IN6-R)
② IC201 ㉙ (IN6-F)

VOLT/DIV: 500mV
TIME/DIV: 200mS



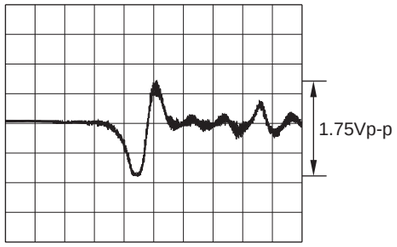
③ Between CN202 ① and ②
(② Pin: 0 Level)

VOLT/DIV: 1V
TIME/DIV: 200mS



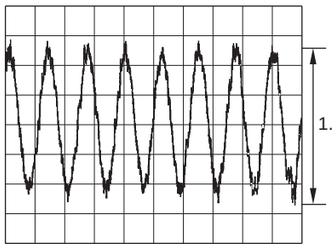
④ IC101 ⑮ (FE)

VOLT/DIV: 500mV
TIME/DIV: 2mS



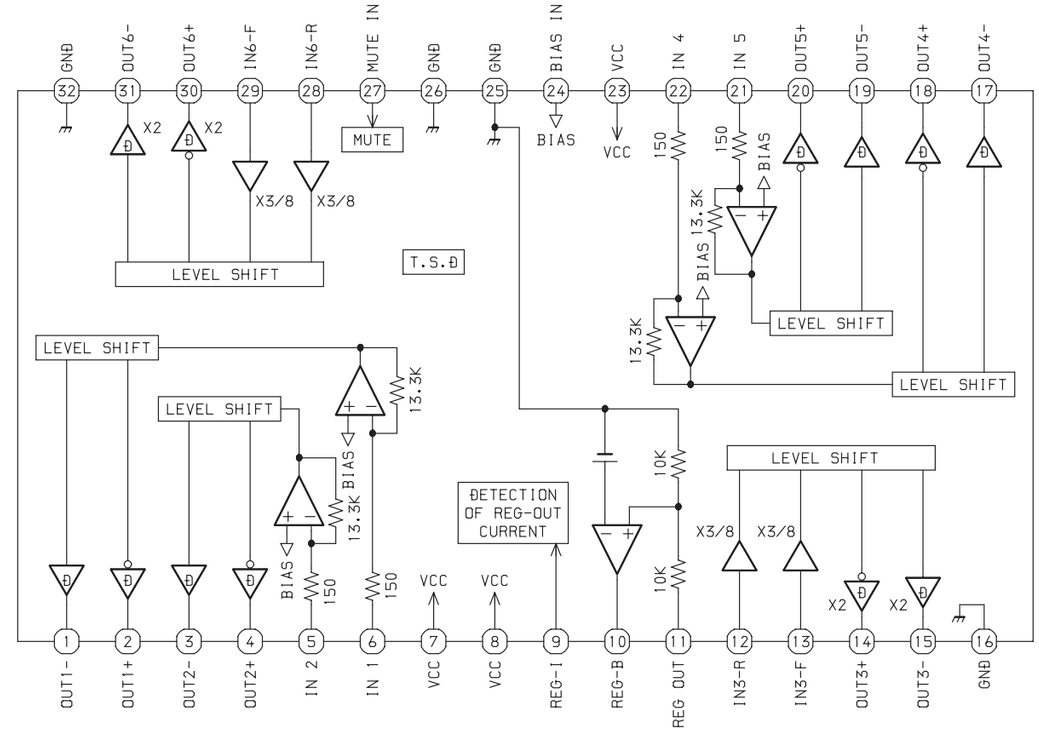
⑤ IC101 ⑯ (TE)

VOLT/DIV: 200mV
TIME/DIV: 200µS

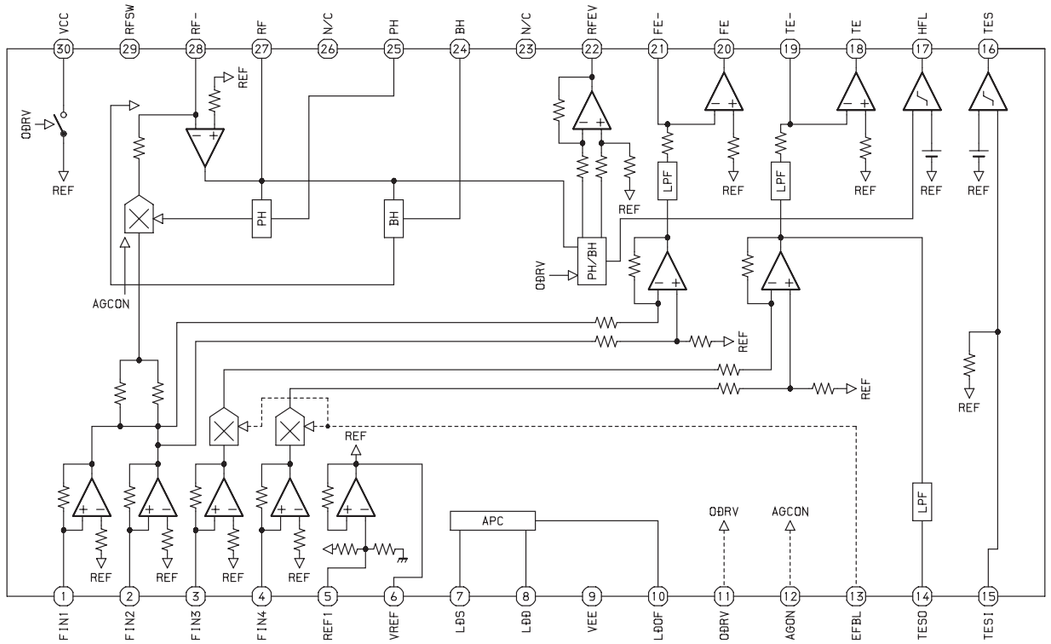


IC BLOCK DIAGRAM

IC, BA5927S



IC, LA9235M



IC DESCRIPTION

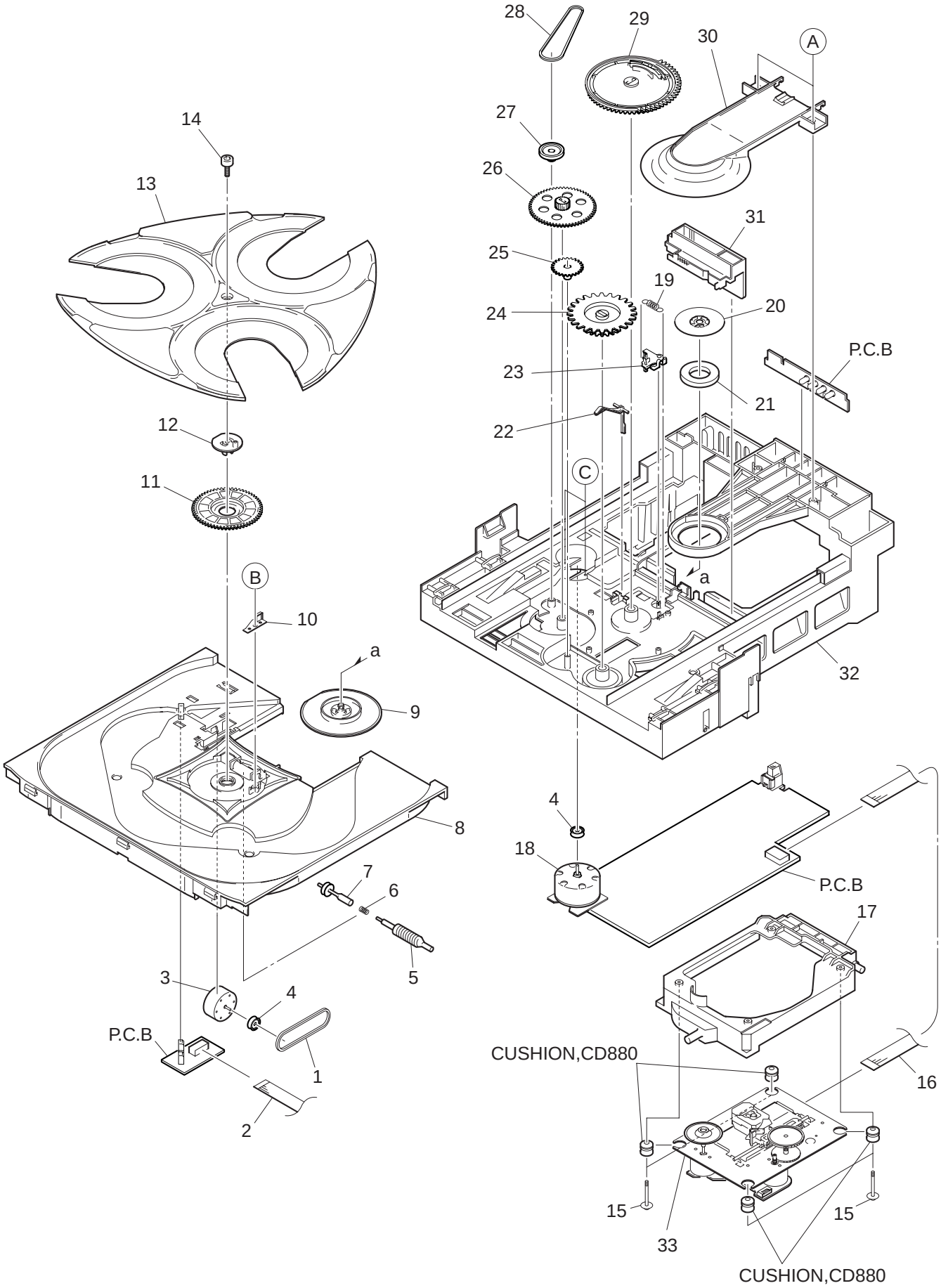
IC, LC78641E

Pin No.	Pin Name	I/O	Description
1	PDO1	O	Internal VCO control phase comparator output pin. (Pull down)
2	PDO2	O	Internal VCO control phase comparator output pin. OFF for rough servo, ON for phase servo. (Pull down)
3	VVSS	—	Internal VCO ground pin.
4	PCKIST	—	PDO output current adjustment resistor connection pin.
5	VVDD	—	Internal VCO power supply pin.
6	FR	—	VCO frequency range adjustment resistor connection pin. (Pull up)
7	HFL	I	Mirror detection signal input pin.
8	SLCIST	—	SLCO output current adjustment resistor connection pin.
9	SLCO	O	Control output.
10	EFMIN	I	EFM signal input pin.
11	JITTV	O	Jitter detection monitor pin.
12	JITTC	O	Jitter detection adjustment pin. (Pull down)
13	BH	I	BH signal input pin. (Connected to GND)
14	PH (RFENV)	I	PH signal or RFENV signal input pin.
15	FE	I	FE signal input pin.
16	TE	I	TE signal input pin.
17	VREF	I	VREF input pin.
18	ADAVDD	—	Servo A/D, D/A power supply pin.
19	ADAVSS	—	Servo A/D, D/A ground pin.
20	PHREF	O	PH reference output pin. (Not connected)
21	BHREF	O	BH reference output pin. (Not connected)
22	TBLO	O	Tracking balance output pin.
23	TDO	O	Tracking control output pin.
24	FDO	O	Focus control output pin.
25	SPDO	O	Spindle control output pin.
26	SLDO	O	Thread control output pin.
27	DVREF/FG	I/O	Output driver VREF output pin. FG signal input pin. (Connected to GND)
28	LASER	O	Laser ON/OFF control pin.
29	CONT1	I/O	General-purpose input/output pin 1. (Connected to GND)
30	CONT2	I/O	General-purpose input/output pin 2. (Connected to GND)
31	CONT3	I/O	General-purpose input/output pin 3. (Connected to GND)
32	CONT4	I/O	General-purpose input/output pin 4.
33	CONT5	I/O	General-purpose input/output pin 5. (Not connected)
34	PCK	O	EFM data playback clock monitor pin. Average 4.3218MHz when the phase is locked. (Not connected)
35	C2F	O	C2 flag output pin. (Not connected)
36	VDD	—	Digital power supply pin.
37	DOUT	O	Digital out output pin. (EIAJ format)
38	FSX	O	Output pin for the 7.35kHz synchronization signal divided from the crystal oscillator. (Not connected)

Pin No.	Pin Name	I/O	Description
39	EFLG	O	C1, C2 error correction monitor pin. (Not connected)
40	TEST	I	Test input pin. (Connected to GND)
41	EMPH	I/O	Emphasis pin. Which becomes an input pin after reset and can be controlled externally. This becomes an emphasis monitor pin under control by command. (Not connected)
42	MUTEL	O	L channel mute output pin. (Not connected)
43	MUTER	O	R channel mute output pin. (Not connected)
44	LVDD	—	L channel power supply pin.
45	LCHO	O	L channel output pin.
46	LVSS	—	L channel ground pin.
47	RVSS	—	R channel ground pin.
48	RCHO	O	R channel output pin.
49	RVDD	—	R channel power supply pin.
50	XVDD	—	Crystal oscillator power supply pin.
51	XIN	I	Connections for a 16.9344MHz crystal oscillator pin.
52	XOUT	O	
53	XVSS	—	Crystal oscillator ground pin.
54	ASLRCK	I	L/R clock input pin. (Connected to GND)
55	ASDACK	I	Bit clock input pin. (Connected to GND)
56	ASDFIN	I	L/R channel data input pin. (Connected to GND)
57	LRSY	O	L/R clock output pin. (Not connected)
58	DATACK	O	Bit clock output pin. (Not connected)
59	DATA	O	L/R channel data output pin. (Not connected)
60	16M	O	16.9344MHz output pin. (Not connected)
61	SFSY	O	Subcode frame synchronization signal output pin. This signal falls when the subcode is in the standby state. (Not connected)
62	SBSY	O	Subcode clock synchronization signal output pin. (Not connected)
63	PW	O	Subcode P, Q, R, S, T, U and W output pin. (Not connected)
64	SBCK	I	Subcode readout clock input pin. (Connected to GND)
65	CE	I	Chip enable signal input pin.
66	CL	I	Data transfer clock input pin.
67	DI	I	Data input pin.
68	DO	O	Data output pin.
69	INT	O	Interruption signal output pin. (Not connected)
70	WRQ	O	Interruption signal output pin.
71	RES	I	Reset input pin. This pin must be set low briefly after power is first applied.
72	DRF	O	Focus ON detect pin.
73	VDD5V	—	Microprocessor interface power supply.
74	VSS	—	Digital ground pin.
75	CONT6	I/O	General-purpose input/output pin 6.
76	CONT7	I/O	General-purpose input/output pin 7.
77	V/P	O	Rough servo/phase control automatic switching monitor output pin. “H” for rough servo and “L” for phase servo. (Not connected)

Pin No.	Pin Name	I/O	Description
78	FSEQ	O	Synchronization signal detection output pin. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not connected)
79	DEFECT	I/O	Defect pin. Which becomes an input pin after reset and can be controlled externally. This becomes the defect monitor pin under control by command. (Not connected)
80	EFMO	O	EFM signal output pin. (Not connected)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

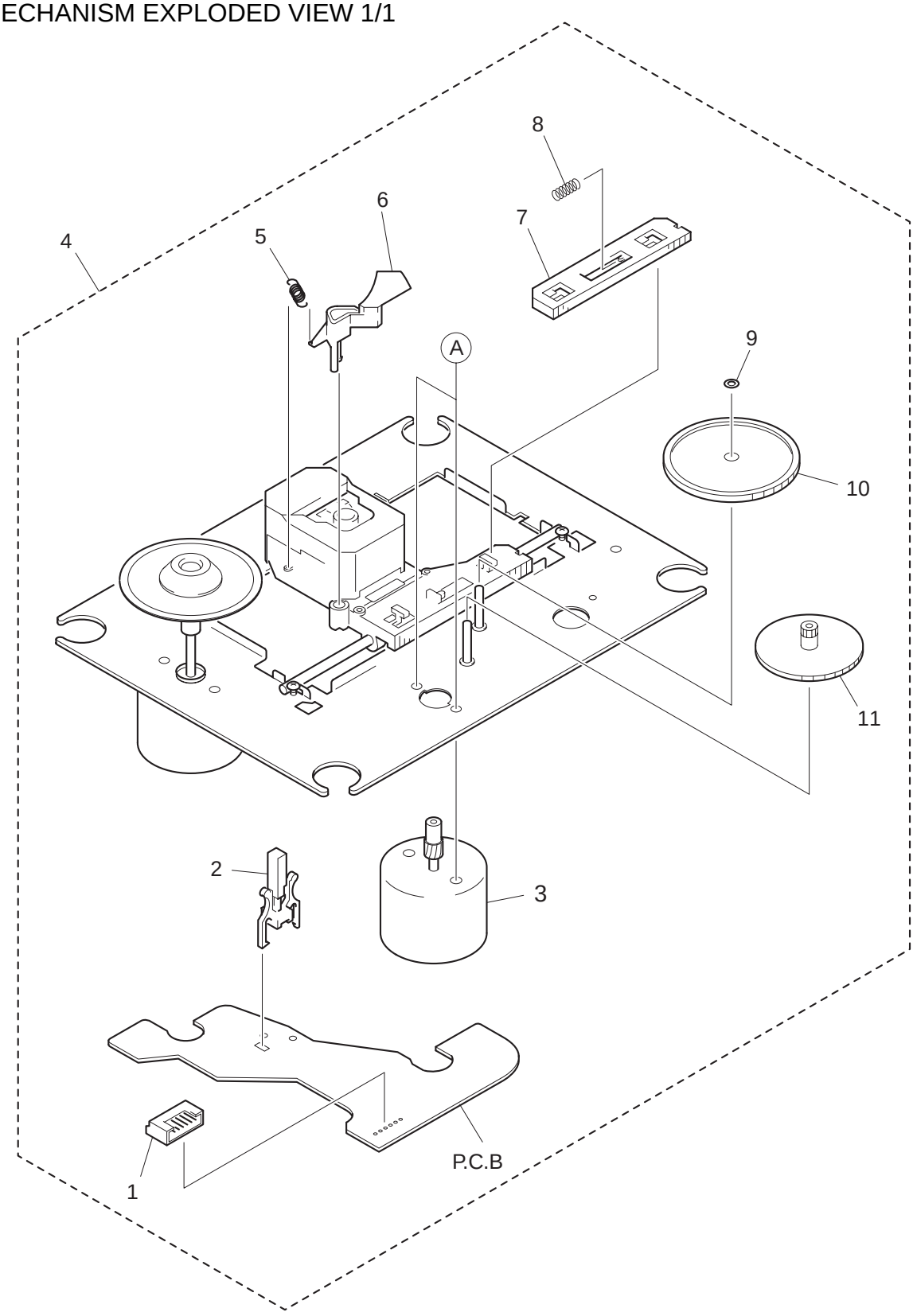
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-225-010		BELT,SQ1.0-63.3
2	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N <EXCEPT ZD8RN1DM,ZD8RNDM>
2	84-ZG1-672-010		F-CABLE,5P 1.25 210MM WHITE N <ZD8RN1DM,ZD8RNDM>
3	87-045-364-010		MOTOR(BCH3B14)
4	84-ZG1-267-010		PULLEY,LOAD MO 8 <EXCEPT YKZD8RDF,ZD8RD>
4	81-ZG1-212-010		PULLY,LOAD MO<YKZD8RDF,ZD8RD>
5	84-ZG1-238-010		GEAR,WORM N
6	84-ZG1-248-010		SPR-C,WORM
7	84-ZG1-239-210		PULLY,WORM N
8	84-ZG1-008-210		TRAY,NO3<ZD8RD>
8	8A-ZG1-001-010		TRAY,NO3 BLU<EXCEPT ZD8RD>
9	8A-ZG1-210-010		HLDR,MAGNET 23<YKZD8RDF>
9	84-ZG1-243-210		HLDR,MAGNET N(J) <YZD8RDJM,ZD8RMDJM,YZD8RMDJM>
9	84-ZG1-289-010		HLDR,MAGNET NAT<ZD8RNDM>
9	81-ZG1-277-310		HLDR,MAGNET N <ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RD>
10	84-ZG1-259-010		SPR-P,WORM
11	84-ZG1-221-010		GEAR,MAIN TT<YKZD8RDF>
11	84-ZG1-269-010		GEAR,MAIN TT 4<EXCEPT YKZD8RDF>
12	84-ZG1-224-010		LEVER,TT<EXCEPT ZD8RNDM>
12	84-ZG1-288-010		LEVER,TT NAT<ZD8RNDM>
13	8A-ZG1-002-010		TURN TABLE,NO1 BLU<EXCEPT ZD8RD>
13	84-ZG1-005-210		TURNTABLE,NO1(*)<ZD8RD>
14	81-ZG1-239-010		S-SCREW,TT
15	8A-ZG1-201-010		S-SCREW,MECH 880
16	85-NFT-611-110		FF-CABLE 16P-1.0
17	84-ZG1-299-210		HLDR,MECHA NO3<EXCEPT ZD8RNDM>
17	8A-ZG1-203-010		HLDR,MECHA NO3 NAT<ZD8RNDM>
18	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
19	84-ZG1-211-010		SPR-E CAM S
20	84-ZG1-285-010		PLATE,MAGNET BLK<ZD8RN1DM>
20	81-ZG1-255-110		PLATE,MAGNET MK2<EXCEPT ZD8RN1DM>
21	83-ZG3-604-010		RING,MAG 2
22	83-ZG3-213-010		LVR,SW
23	84-ZG1-208-210		LEVER,CAM<YKZD8RDF>
23	84-ZG1-266-010		LEVER,CAN 8<EXCEPT YKZD8RDF>
24	84-ZG1-205-210		GEAR,TRAY (*)
25	81-ZG1-291-110		GEAR,TRAY RELAY NO3
26	84-ZG1-206-110		GEAR,RELAY<YKZD8RDF>
26	84-ZG1-274-010		GEAR,RELAY 8<EXCEPT YKZD8RDF>
27	84-ZG1-207-010		PULLEY,RELAY
28	84-ZG1-209-010		BELT,SQ1.8-117.7
29	84-ZG1-203-410		GEAR,MAIN CAM<ZD8RNDM>
29	84-ZG1-215-410		GEAR,MAIN CAM BLU<EXCEPT ZD8RNDM>
30	84-ZG1-011-010		REFLECTOR,CD <EXCEPT ZD8RN1DM,ZD8RNDM>
31	84-ZG1-216-310		SLIDE,MECHA CAM YEL <EXCEPT ZD8RNDM>
31	84-ZG1-204-310		SLIDER,MECHA CAM<ZD8RNDM>
32	84-ZG1-286-010		CHAS,MECHA NAT<ZD8RNDM>
32	84-ZG1-201-410		CHAS,MECHA<EXCEPT ZD8RNDM>
33	M8-ZZK-C90-070		KSM-880CAB
A	87-067-703-010		TAPPING SCREW, BVT2+3-10 <EXCEPT ZD8RN1DM,ZD8RNDM>
B	87-067-981-010		BVT2+3-6 BLK
C	87-251-070-410		U+2.6-3

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	91-564-722-110		CONN,PIN 6P
2	91-572-085-110		LEAF SWITCH
3	9X-264-655-010		SL MOTORR ASSY
4	M8-ZZK-C90-070		KSM-880CAB
5	92-647-416-020		SPRING EXTENSION
6	92-647-595-020		SHUTTER B
7	92-647-732-010		NS SLIDE RACK
8	92-647-742-010		SPRING COMPRESSION
9	93-321-813-110		POLI WASHER
10	92-647-407-010		GEAR A
11	92-647-408-020		GEAR B
A	93-713-786-510		SCREW,+P2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

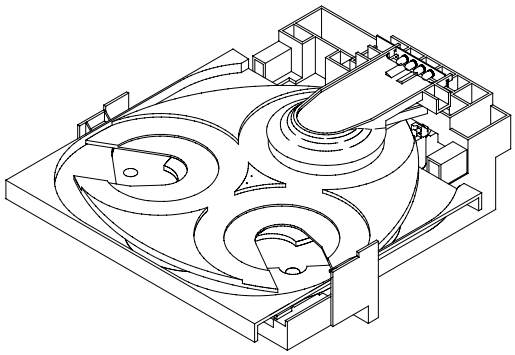
アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2–11, IKENOHATA 1–CHOME, TAITO-KU, TOKYO 110-8710, JAPAN TEL:03 (3827) 3111

0251431
Printed in Singapore

aiwa SERVICE

AZG-1

English



SERVICE MANUAL

CD-R/RW MECHANISM

BASIC CD MECHANISM:KSM-880CAB

TYPE
ZD8RD
YZD8RMDJM
ZD8RMDJM
ZD8RDNDM
YKZD8RDF
ZD8RDM
YZD8RDM
ZD8RN1DM
YZD8RDJM

aiwa

S/M Code No. 09-001-335-3N6

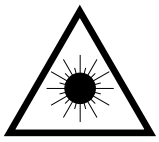
DATA

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

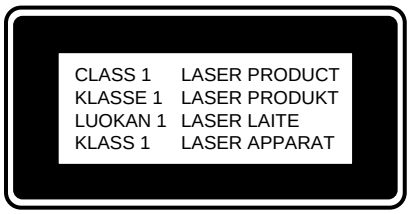
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

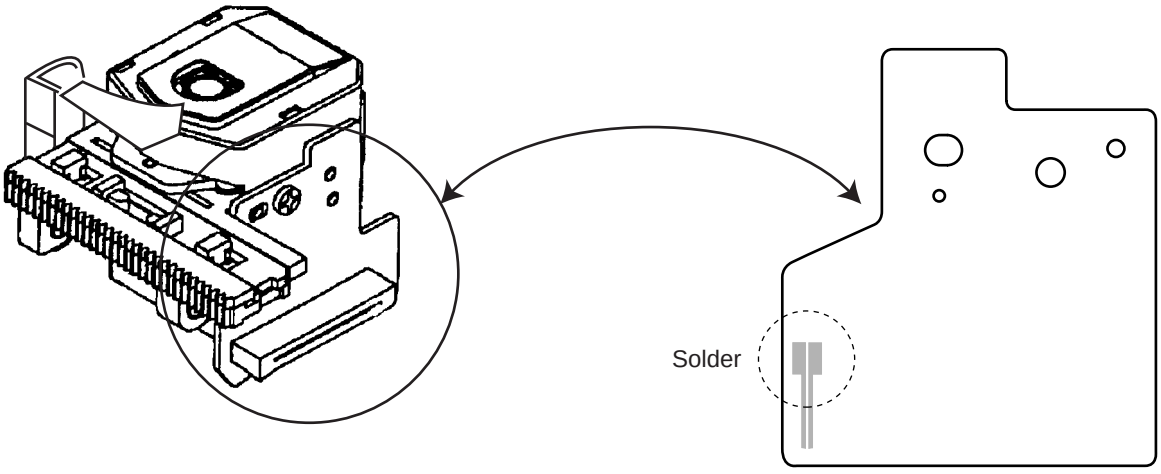
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

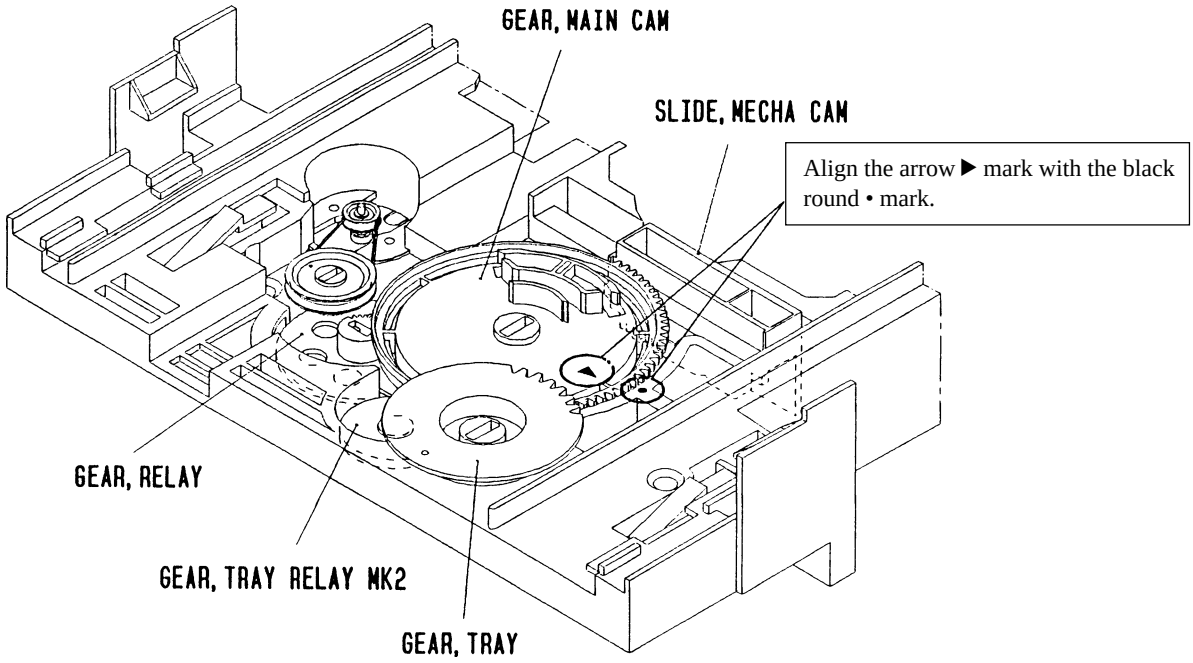
1) After the connection, remove solder shown in the figure below.



How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

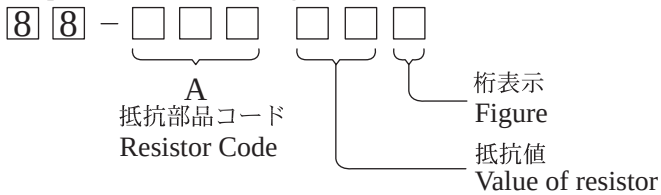
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-381-040		C-IC,LA9235M
	87-A21-556-010		C-IC,LC78641E
	87-A21-414-010		IC,BA5927S
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-497-080		TR,2SA1980Y/G
	87-A30-087-080		C-FET,2SK2158
	87-026-237-080		CHIP-TR,DTC124XK <EXCEPT ZD8RN1DM,YZD8RDM>
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-A40-270-080		C-DIODE,MC2838
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-003-080		ZENER,MTZJ4.3A
	87-A40-337-080		ZENER,MTZJ6.8B
	87-A40-313-080		C-DIODE,MC2840
3CD C.B			
C1	87-010-374-080		CAP,E 47-10
C2	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C2	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C3	87-010-260-080		CAP, ELECT 47-25V
C4	87-010-260-080		CAP, ELECT 47-25V
C5	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C5	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C6	87-010-405-080		CAP, ELECT 10-50V
C7	87-010-263-080		CAP, ELECT 100-10V
C8	87-012-349-080		C-CAP,S 1000P-50 CH
C10	87-010-546-080		CAP,E 0.33-50
C11	87-010-401-080		CAP, ELECT 1-50V
C13	87-010-321-020		C-CAP,S 82P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C13	87-010-321-080		C-CAP,S 82P-50 J CH <YKZD88RDF,ZD8RD>
C15	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C15	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C16	87-010-260-080		CAP, ELECT 47-25V
C101	87-010-992-080		C-CAP,S 0.047-25 B
C102	87-010-401-080		CAP, ELECT 1-50V
C103	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C103	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C104	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C104	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C105	87-010-260-080		CAP, ELECT 47-25V
C106	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C106	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C107	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C107	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C108	87-010-186-080		CAP,CHIP 4700P<YKZD88RDF,ZD8RD>
C108	87-010-186-020		CAP,CHIP 4700P <EXCEPT YKZD88RDF,ZD8RD>
C109	87-010-992-080		C-CAP,S 0.047-25 B
C110	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C110	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C111	87-010-260-080		CAP, ELECT 47-25V
C112	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C112	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C114	87-010-260-080		CAP, ELECT 47-25V
C115	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C115	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C116	87-010-260-080		CAP, ELECT 47-25V
C117	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C117	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C118	87-010-260-080		CAP, ELECT 47-25V
C119	87-015-819-080		
C120	87-010-312-080		C-CAP,S 15P-50 CH <YKZD88RDF,ZD8RD>
C120	87-010-312-020		C-CAP,S 15P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C121	87-010-312-020		C-CAP,S 15P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C121	87-010-312-080		C-CAP,S 15P-50 CH <YKZD88RDF,ZD8RD>
C122	87-010-404-080		CAP, ELECT 4.7-50V
C123	87-010-197-020		CHIP CAPACITOR,0.01-25 <EXCEPT YKZD88RDF,ZD8RD>
C123	87-010-197-080		CHIP CAPACITOR,0.01-25 <YKZD88RDF,ZD8RD>
C124	87-010-401-080		CAP, ELECT 1-50V
C126	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C126	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C128	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C128	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C130	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C130	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C132	87-010-405-080		CAP, ELECT 10-50V
C133	87-010-314-020		C-CAP,S 22P-50V <EXCEPT YKZD88RDF,ZD8RD>
C133	87-010-314-080		C-CAP,S 22P-50V<YKZD88RDF,ZD8RD>
C135	87-A11-088-080		CAP,TC U 100P-50 J CH
C151	87-010-405-080		CAP, ELECT 10-50V
C152	87-010-405-080		CAP, ELECT 10-50V
C192	87-012-349-080		C-CAP,S 1000P-50 CH
C193	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C193	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C201	87-A10-730-080		CAP,E 1000-16 SMG
C202	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C202	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C204	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C204	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C205	87-010-405-080		CAP, ELECT 10-50V
C206	87-010-405-080		CAP, ELECT 10-50V
C207	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C207	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C301	87-010-382-080		CAP, ELECT 22-25V
C302	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C302	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C303	87-010-260-080		CAP, ELECT 47-25V
C401	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C401	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C402	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C402	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C403	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C403	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C404	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C404	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C405	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C405	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C406	87-010-322-020		C-CAP,S 100P-50 CH <EXCEPT YKZD88RDF,ZD8RD>
C406	87-010-322-080		C-CAP,S 100P-50 CH <YKZD88RDF,ZD8RD>
C407	87-010-405-080		CAP, ELECT 10-50V
C454	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
C454	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C601	87-010-260-080		CAP, ELECT 47-25V
C602	87-010-196-080		CHIP CAPACITOR,0.1-25 <YKZD88RDF,ZD8RD>
C602	87-010-196-020		CHIP CAPACITOR,0.1-25 <EXCEPT YKZD88RDF,ZD8RD>
CN1	87-A60-429-010		CONN,16P H TOC-A
CN201	84-ZG1-648-010		CONN ASSY,6P
CN202	87-A60-130-010		CONN,5P V
CN501	84-ZG1-647-010		CONN ASSY,2P <EXCEPT ZD8RN1DM,ZD8RNDM>
CN601	87-009-345-010		CONN,2P PH V <EXCEPT ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RNDM>
CON401	87-099-030-010		CONN,13P 6216H
FB601	87-008-372-080		FLTR,EMI BL01 RN1 <EXCEPT ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RNDM>
FB602	87-008-372-080		FLTR,EMI BL01 RN1
LED601	87-A40-558-010		LED,SLZ-8128A-01-A
M201	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
SW201	87-036-109-010		SW,MICRO SPPB61
SW202	87-036-109-010		SW,MICRO SPPB61
X101	87-A70-046-010		VIB,XTAL 16.934MHZ
LED. C.B			
LED501	87-A40-263-080		LED,SLH-56PCT31 GRN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED502	87-A40-263-080		LED,SLH-56PCT31 GRN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED503	87-A40-268-080		LED,SLH-56DCT31 ORN <EXCEPT ZD8RN1DM,ZD8RNDM>
LED504	87-A40-268-080		LED,SLH-56DCT31 ORN <EXCEPT ZD8RN1DM,ZD8RNDM>
T-T C.B			
C401	87-018-214-080		CAP TC U 0.1-50F
CON401	86-NFZ-675-010		CONN,5P H 6216-11H
M401	87-045-364-010		MOTOR(BCH3B14)
PS401	87-026-573-010		SNSR,PHOTO GP1S53V
MOTOR C.B			
PIN3	91-564-722-110		CONN,PIN 6P
SW1	91-572-085-110		LEAF SWITCH

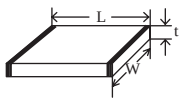
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

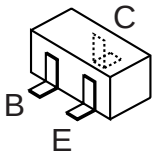
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

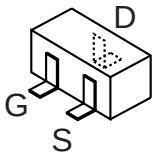
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

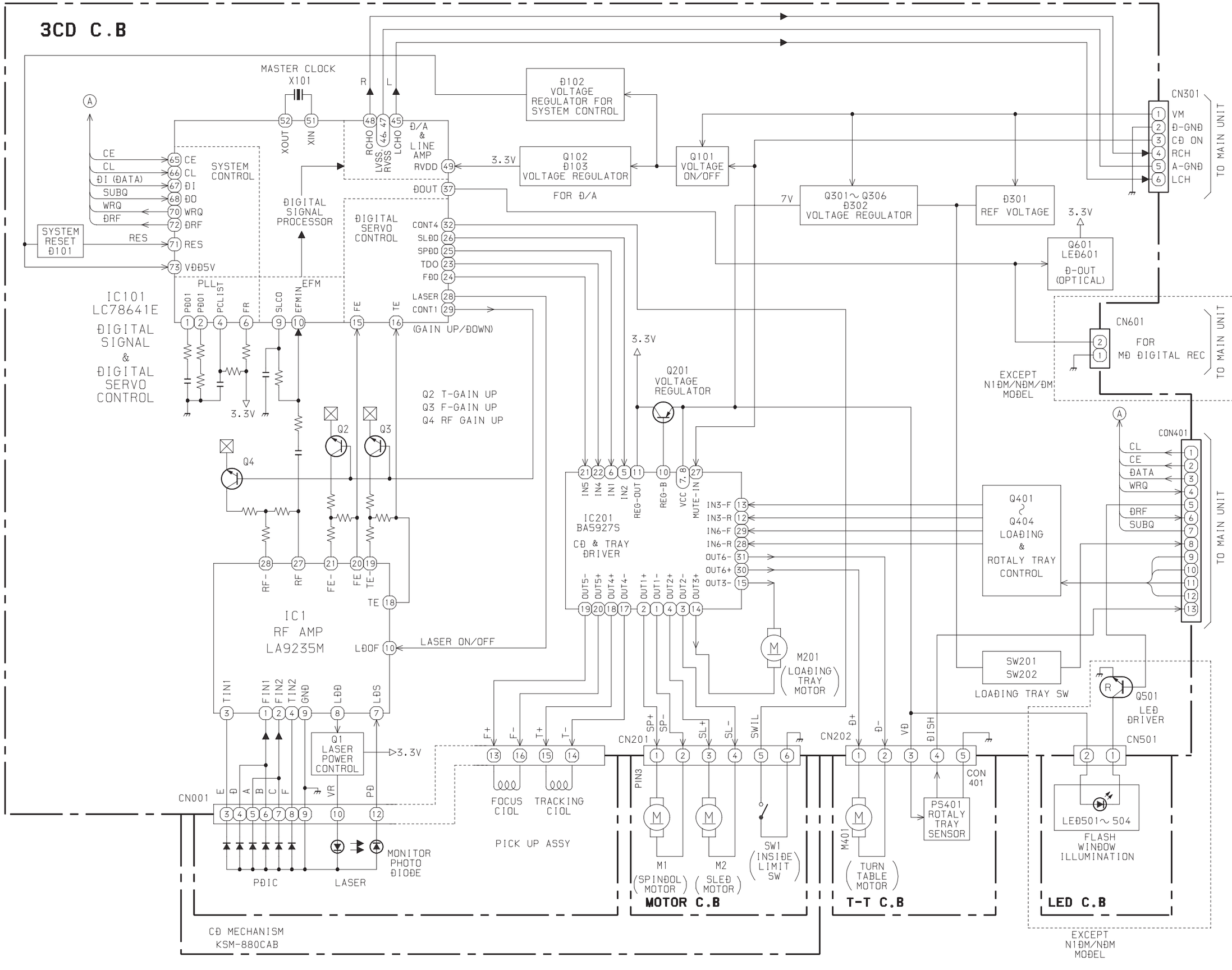


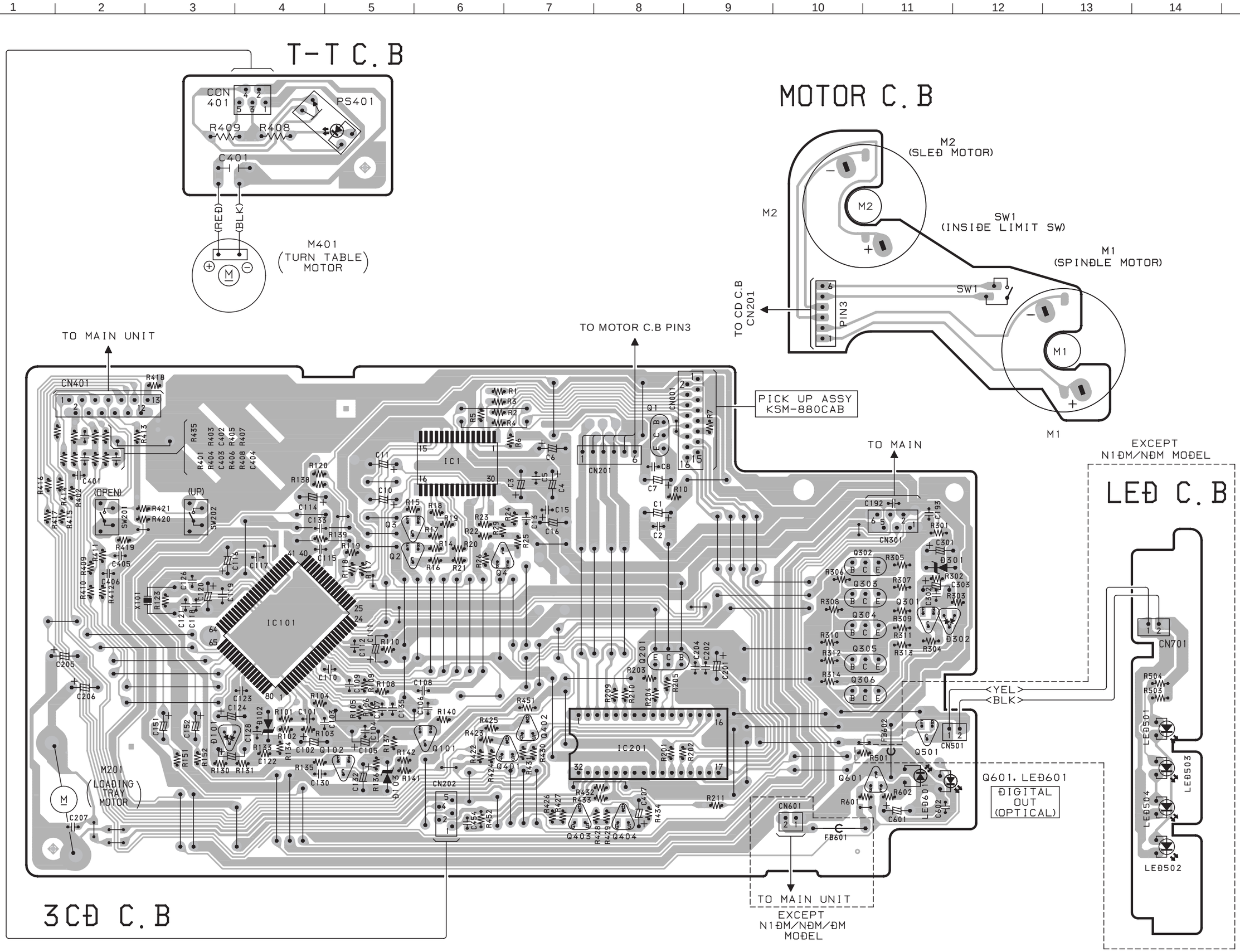
2SA1235F
2SC3052F
DTC124XK

2SA1980Y/G
KTA1266GR

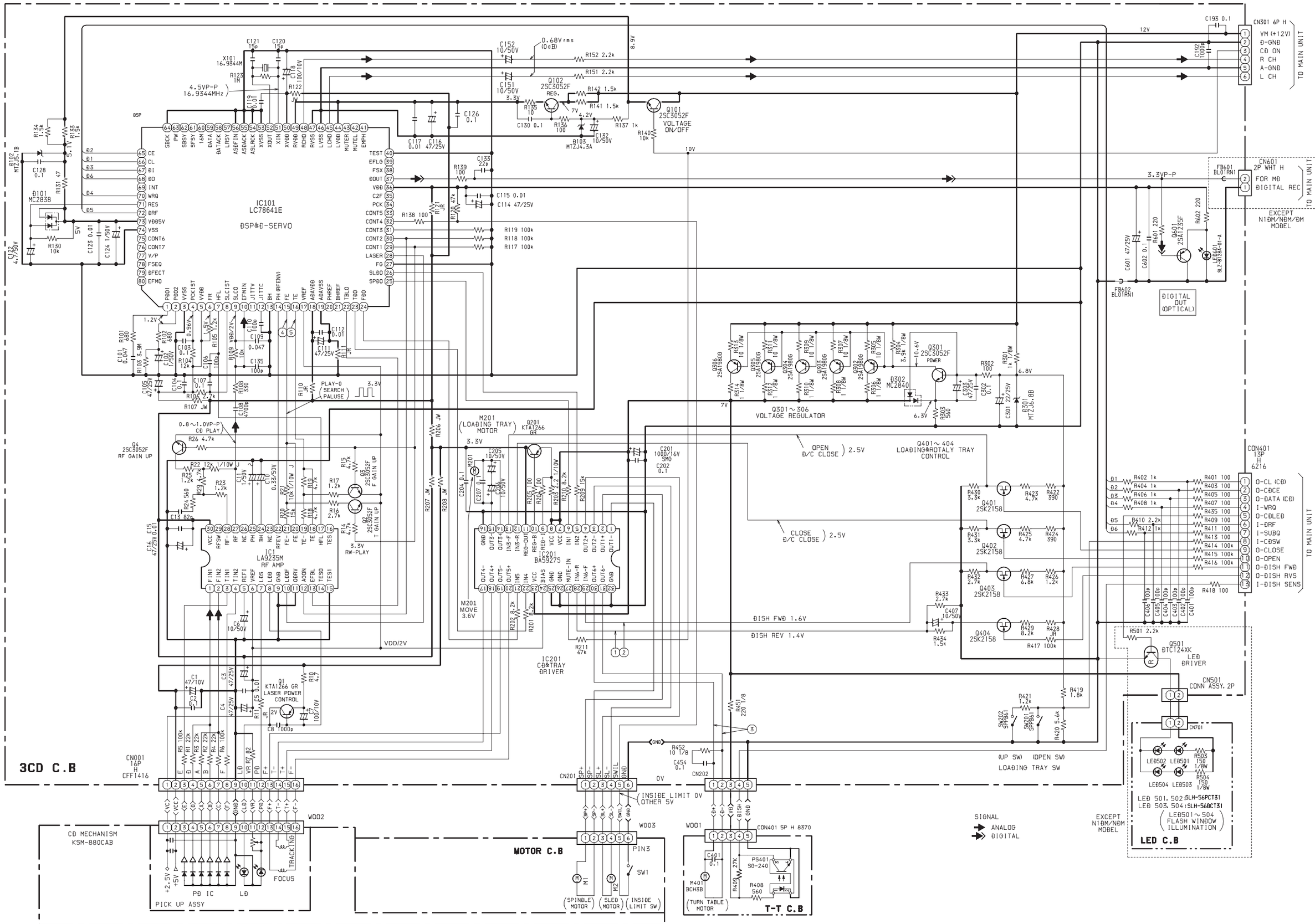


2SK2158


3CD C.B
MASTER CLOCK
X101
XOUT
XIN
R
L
RCHO
LVSS
RVSS
LCHO
Đ/A & LINE AMP
Đ102 VOLTAGE REGULATOR FOR SYSTEM CONTROL
Q102 Đ103 VOLTAGE REGULATOR
FOR Đ/A
Q101 VOLTAGE ON/OFF
3.3V
RVDD
ĐOUT
CE
CL
Đ I (ĐATA)
SUBQ
WRQ
ĐRF
RES
VĐĐ5V
SYSTEM CONTROL
SYSTEM RESET Đ101
ĐIGITAL SIGNAL PROCESSOR
ĐIGITAL SERVO CONTROL
CONT4
SLĐO
SPĐO
TDO
FĐO
LASER
CONT1
(GAIN UP/ĐOWN)
PLL
EFM
IC101
LC78641E
ĐIGITAL SIGNAL & ĐIGITAL SERVO CONTROL
PĐO1
PDO1
PCLIST
FR
SLCO
EFMIN
FE
TE
Q2 T-GAIN UP
Q3 F-GAIN UP
Q4 RF GAIN UP
Q2
Q3
Q4
Q201 VOLTAGE REGULATOR
7V
Q301~Q306 Đ302 VOLTAGE REGULATOR
Đ301 REF VOLTAGE
Q601 LEĐ601 Đ-OUT (OPTICAL)
CN301
VM
Đ-GNĐ
CĐ ON
RCH
A-GNĐ
LCH
TO MAIN UNIT
CN601
FOR MĐ ĐIGITAL REC
EXCEPT N1ĐM/NĐM/ĐM MOĐEL
CON401
CL
CE
ĐATA
WRQ
ĐRF
SUBQ
IC201
BA5927S
CĐ & TRAY ĐRIVER
IN5
IN4
IN1
IN2
REG-O
REG-B
VCC
MUTE-IN
IN3-F
IN3-R
IN6-F
IN6-R
OUT6-
OUT6+
OUT3-
OUT5-
OUT5+
OUT4+
OUT4-
OUT1+
OUT1-
OUT2+
OUT2-
OUT3+
Q401 ~ Q404 LOAĐING & ROTALY TRAY CONTROL
SW201 SW202
LOAĐING TRAY SW
M201 (LOAĐING TRAY MOTOR)
M
IC1
RF AMP
LA9235M
RF-
RF
FE-
FE
TE-
TE
LĐOF
LASER ON/OFF
TIN1
FIN1
FIN2
TIN2
GND
LĐĐ
LĐS
Q1 LASER POWER CONTROL
VR
PĐ
CN001
E
Đ
A
B
C
F
PĐIC
LASER
MONITOR PHOTO ĐIOĐE
F+
F-
T+
T-
FOCUS CIOL
TRACKING CIOL
PICK UP ASSY
CN201
SP+
SP-
SL+
SL-
SWIL
PIN3
M1 (SPINĐOL MOTOR)
M2 (SLEĐ MOTOR)
SW1 (INSIĐE LIMIT SW)
MOTOR C.B
CN202
Đ+
Đ-
VĐ
ĐISH
M401
TURN TABLE MOTOR
PS401 ROTALY TRAY SENSOR
CON 401
T-T C.B
Q501 LEĐ ĐRIVER
CN501
LEĐ501~504
FLASH WINĐOW ILLUMINATION
LED C.B
EXCEPT N1ĐM/NĐM MOĐEL
CĐ MECHANISM KSM-880CAB


T-T C.B
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE MOTOR)
MOTOR C.B
M2
(SLED MOTOR)
M2
SW1
(INSIDE LIMIT SW)
M1
(SPINDLE MOTOR)
SW1
PIN3
TO CD C.B
CN201
M1
TO MAIN UNIT
TO MOTOR C.B PIN3
PICK UP ASSY
KSM-880CAB
TO MAIN
EXCEPT
N1DM/NDM MODEL
LED C.B
CN401
R418
(OPEN)
(UP)
SW201
SW202
M201
(LOADING TRAY MOTOR)
IC1
IC101
IC201
CN201
CN001
CN202
CN601
CN301
CN501
CN701
Q1
Q2
Q3
Q4
Q101
Q102
Q201
Q301
Q302
Q303
Q304
Q305
Q306
Q401
Q402
Q403
Q404
Q501
Q601
FB601
FB602
X101
D101
D102
D301
D302
LED501
LED502
LED503
LED504
LED601
<YEL>
<BLK>
Q601, LED601
DIGITAL OUT (OPTICAL)
TO MAIN UNIT
EXCEPT
N1DM/NDM/DM
MODEL
3CD C.B

SCHEMATIC DIAGRAM



TEST MODE

1. How to Start the CD Test Mode

While pressing the CD function key, connect the AC power plug to wall outlet.
The test mode starts up and “CD TEST” appears on the display.

2. How to Exit the CD Test Mode

Press the POWER button or disconnect the AC power plug from wall outlet.
* When any function key other than PLAY is pressed during playback, the test mode is canceled.

3. Function and Use of the CD Test Mode

NO	MODE	How to enter the mode	Display	Operation	Check item
1	Start mode		All indicators turn on	• All FL all ndicators turn on	• FL check • Microprocessor check
2	Search mode	STOP button	CD	• LD turns on all the time • Focus search continuos operation *1 • Spindle motor continuos kick	• APC circuit check • Laser current measurement • Focus search waveform check • Focus error waveform check (Ignores DRF during search mode)
3	Play mode	PLAY button	Normal	• Normal playback • Focus search is continued if failed in TOC READ.	• Each servo circuit is checked • DRF check
4	Traverse mode	PAUSE button	Normal	• Tracking servo OFF/ON Repeats OFF/ON every time the PAUSE button is pressed	• Tracking balance check
5	Sled mode	FF button	CD TEST	• Moves PU to inner circumference *2 Kicks the lens to inner circumference at the same time	• Sled circuit check • Tracking circuit check • Mechanism operation check • PU check
		RWD button	CD TEST	• Moves PU to outer circumference *2 Kicks the lens to outer circumference at the same time	
6	Spindle mode	TAPE REC button	All indicators turn on	• Pressing the button once rotates the spindle motor in the normal direction (rough speed). Pressing the button again rotates it in the reverse direction. Pressing it again stops the motor	• Spindle circuit check • Spindle motor check
7	RF AGC mode	TUNER button	AGC ON/OFF	• Repeats ON/OFF every time the TUNER button is pressed	• PU good or defective check • RF AMP circuit check

*1 ..... When the focus search keeps running for 10 minutes or longer continuously, the driver IC heats up, and the protective circuit works so that the machine may stops operating.
In this case, turn off the main power, wait for a while and restart the machine.

*2 ..... Do not keep pressing the FF or RWD button while the pickup is located at the innermost or outermost circumference because the gear can be damaged as the sled motor keeps rotating.

4. Automatic Adjustment Result Display

The automatic adjustment values of the focus and the tracking can be displayed.

4-1. Automatic Adjustment Result Display of Focus Offset Cancel/Gain

1) Enter the start mode (all indicators turn on).
2) Press the TAPE button to display “F**” and set each of the adjustment item to either ON or OFF. (Refer to the following table.)
3) Press the PLAY button to play back the CD.
4) Press the CD button.
5) The automatic adjustment value “F** **” is displayed. (Refer to the following table.)
6) Upon completion of check, press the CD button twice to return to the play mode.

Adjustment item (ON = 1, OFF = 0)			Automatic adjustment value display (Asterisk * means hexadecimal display.)			
F	OFFSET	GAIN	F	OFFSET	—	GAIN
F	0	0	F	Not displayed	Not displayed	Not displayed
F	1	1	F	**	Not displayed	**
F	1	0	F	**	Not displayed	Not displayed
F	0	1	F	Not displayed	Not displayed	**

4-2. Automatic Adjustment Result Display of Tracking Offset Cancel/Balance/Gain

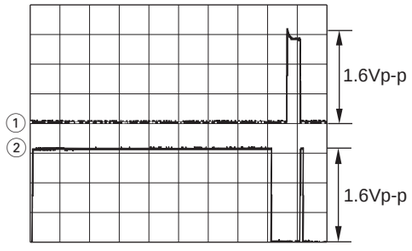
1) Enter the start mode (all indicators turn on).
2) Press the AUX button to display “T***” and set each adjustment item to either ON or OFF. (Refer to the following table.)
3) Press the PLAY button to play back the CD.
4) Press the CD button twice.
5) The automatic adjustment value “F******” is displayed. (Refer to the following table.)
6) Upon completion of check, press the CD button to return to the play mode.

Adjustment item (ON = 1, OFF = 0)				Automatic adjustment value display (Asterisk * means hexadecimal display.)			
T	OFFSET	BALANCE	GAIN	T	OFFSET	BALANCE	GAIN
T	0	0	0	T	Not displayed	Not displayed	Not displayed
T	1	1	1	T	**	**	**
T	1	1	0	T	**	**	Not displayed
T	1	0	1	T	**	Not displayed	**
T	1	0	0	T	**	Not displayed	Not displayed
T	0	1	1	T	Not displayed	**	**
T	0	1	0	T	Not displayed	**	Not displayed
T	0	0	1	T	Not displayed	Not displayed	**

WAVE FORM

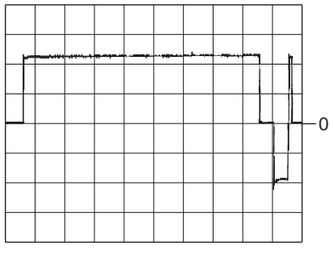
① IC201 ㉘ (IN6-R)
② IC201 ㉙ (IN6-F)

VOLT/DIV: 500mV
TIME/DIV: 200mS



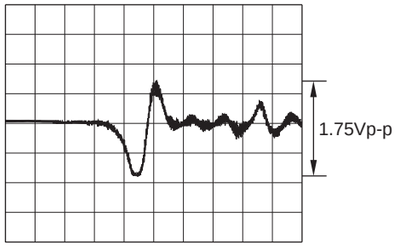
③ Between CN202 ① and ②
(② Pin: 0 Level)

VOLT/DIV: 1V
TIME/DIV: 200mS



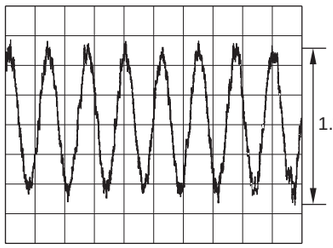
④ IC101 ⑮ (FE)

VOLT/DIV: 500mV
TIME/DIV: 2mS



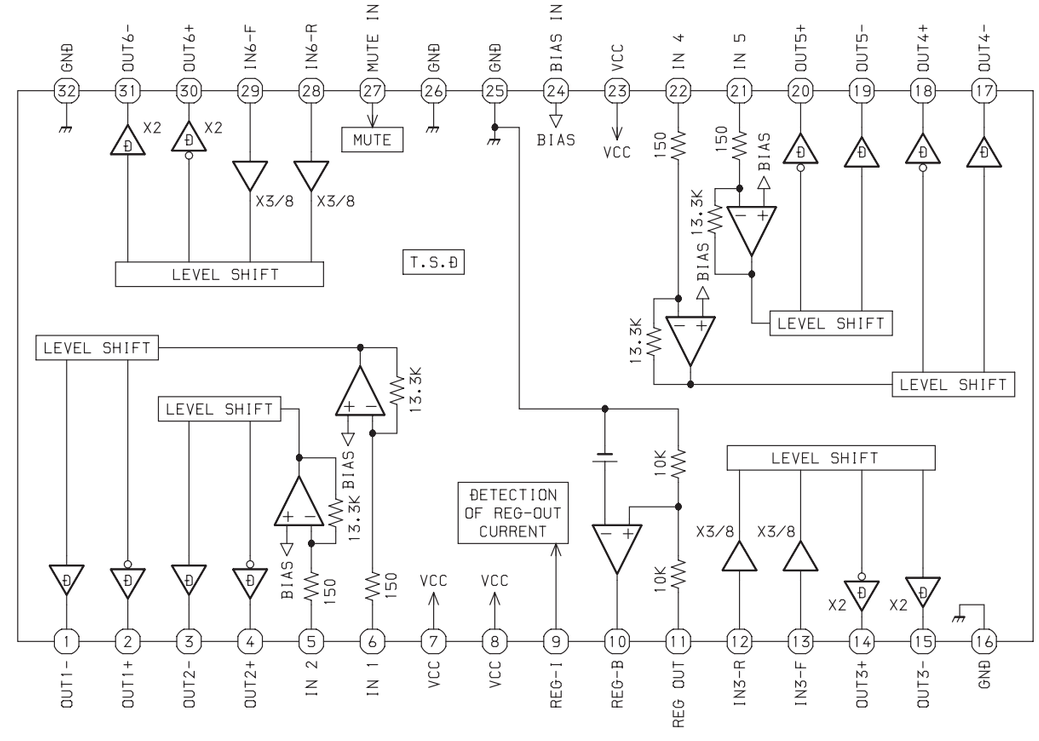
⑤ IC101 ⑯ (TE)

VOLT/DIV: 200mV
TIME/DIV: 200µS

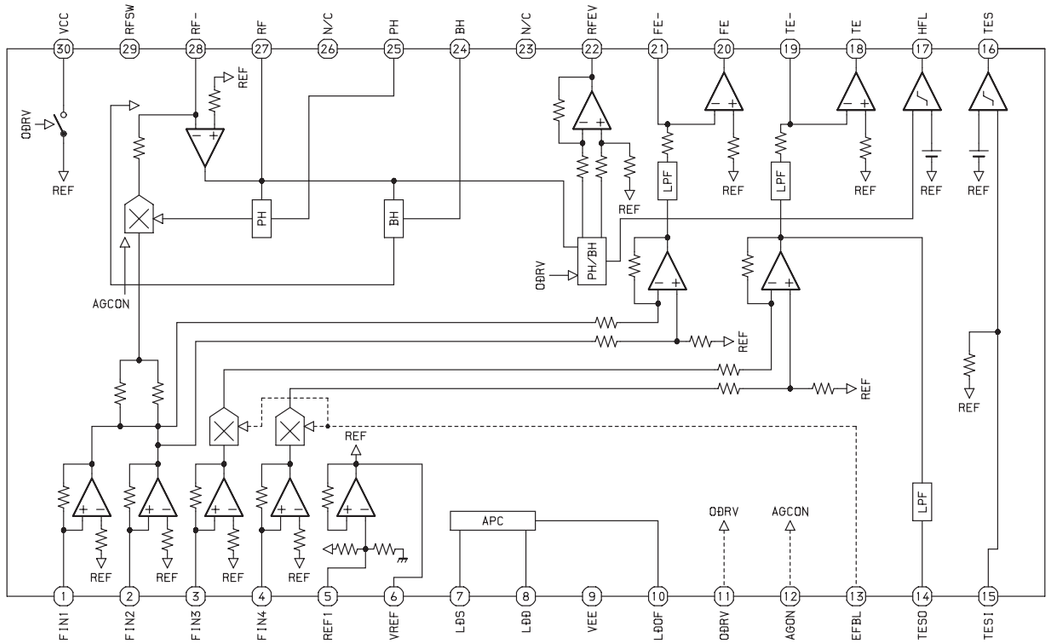


IC BLOCK DIAGRAM

IC, BA5927S



IC, LA9235M



IC DESCRIPTION

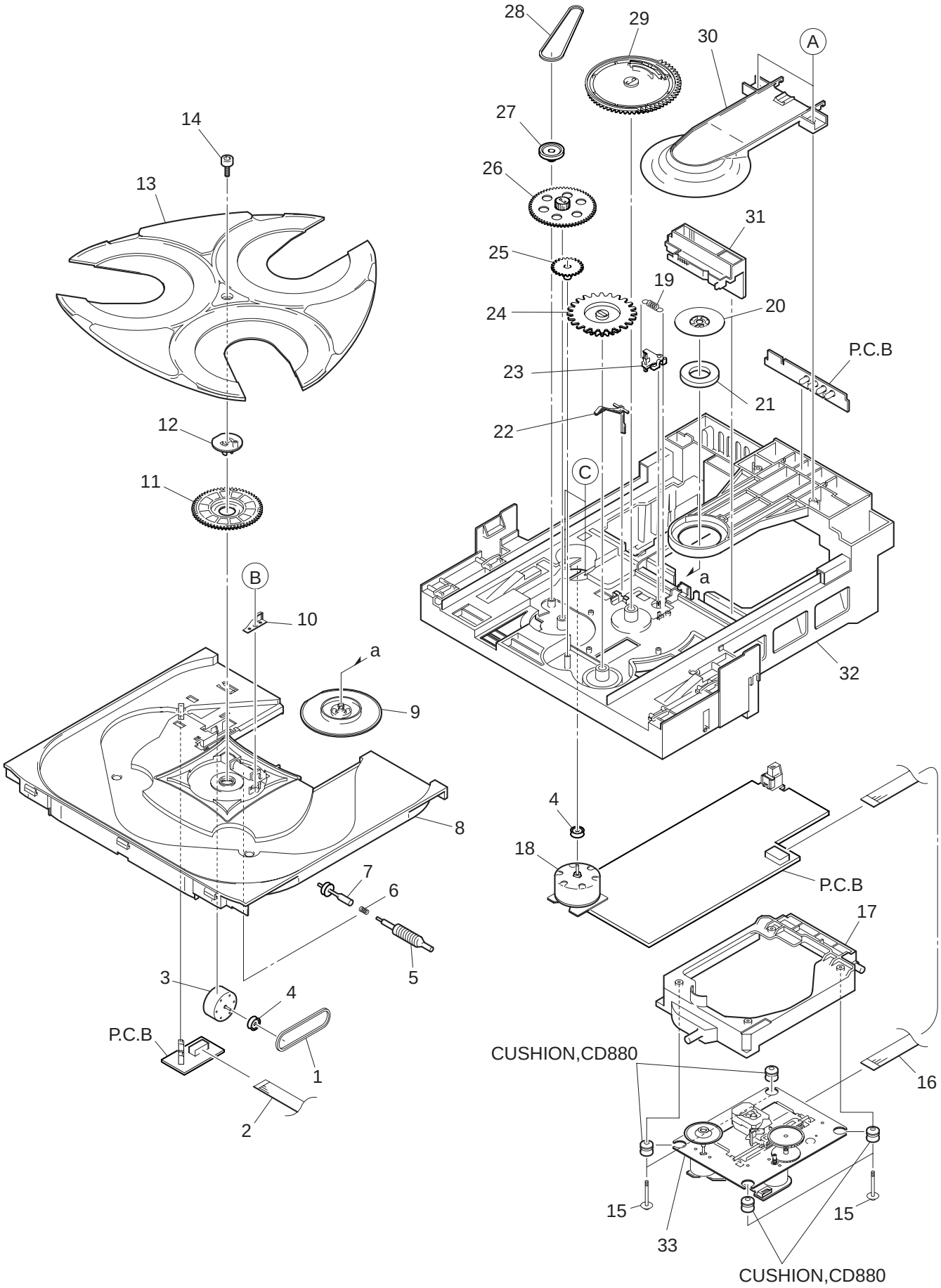
IC, LC78641E

Pin No.	Pin Name	I/O	Description
1	PDO1	O	Internal VCO control phase comparator output pin. (Pull down)
2	PDO2	O	Internal VCO control phase comparator output pin. OFF for rough servo, ON for phase servo. (Pull down)
3	VVSS	—	Internal VCO ground pin.
4	PCKIST	—	PDO output current adjustment resistor connection pin.
5	VVDD	—	Internal VCO power supply pin.
6	FR	—	VCO frequency range adjustment resistor connection pin. (Pull up)
7	HFL	I	Mirror detection signal input pin.
8	SLCIST	—	SLCO output current adjustment resistor connection pin.
9	SLCO	O	Control output.
10	EFMIN	I	EFM signal input pin.
11	JITTV	O	Jitter detection monitor pin.
12	JITTC	O	Jitter detection adjustment pin. (Pull down)
13	BH	I	BH signal input pin. (Connected to GND)
14	PH (RFENV)	I	PH signal or RFENV signal input pin.
15	FE	I	FE signal input pin.
16	TE	I	TE signal input pin.
17	VREF	I	VREF input pin.
18	ADAVDD	—	Servo A/D, D/A power supply pin.
19	ADAVSS	—	Servo A/D, D/A ground pin.
20	PHREF	O	PH reference output pin. (Not connected)
21	BHREF	O	BH reference output pin. (Not connected)
22	TBLO	O	Tracking balance output pin.
23	TDO	O	Tracking control output pin.
24	FDO	O	Focus control output pin.
25	SPDO	O	Spindle control output pin.
26	SLDO	O	Thread control output pin.
27	DVREF/FG	I/O	Output driver VREF output pin. FG signal input pin. (Connected to GND)
28	LASER	O	Laser ON/OFF control pin.
29	CONT1	I/O	General-purpose input/output pin 1. (Connected to GND)
30	CONT2	I/O	General-purpose input/output pin 2. (Connected to GND)
31	CONT3	I/O	General-purpose input/output pin 3. (Connected to GND)
32	CONT4	I/O	General-purpose input/output pin 4.
33	CONT5	I/O	General-purpose input/output pin 5. (Not connected)
34	PCK	O	EFM data playback clock monitor pin. Average 4.3218MHz when the phase is locked. (Not connected)
35	C2F	O	C2 flag output pin. (Not connected)
36	VDD	—	Digital power supply pin.
37	DOUT	O	Digital out output pin. (EIAJ format)
38	FSX	O	Output pin for the 7.35kHz synchronization signal divided from the crystal oscillator. (Not connected)

Pin No.	Pin Name	I/O	Description
39	EFLG	O	C1, C2 error correction monitor pin. (Not connected)
40	TEST	I	Test input pin. (Connected to GND)
41	EMPH	I/O	Emphasis pin. Which becomes an input pin after reset and can be controlled externally. This becomes an emphasis monitor pin under control by command. (Not connected)
42	MUTEL	O	L channel mute output pin. (Not connected)
43	MUTER	O	R channel mute output pin. (Not connected)
44	LVDD	—	L channel power supply pin.
45	LCHO	O	L channel output pin.
46	LVSS	—	L channel ground pin.
47	RVSS	—	R channel ground pin.
48	RCHO	O	R channel output pin.
49	RVDD	—	R channel power supply pin.
50	XVDD	—	Crystal oscillator power supply pin.
51	XIN	I	Connections for a 16.9344MHz crystal oscillator pin.
52	XOUT	O	
53	XVSS	—	Crystal oscillator ground pin.
54	ASLRCK	I	L/R clock input pin. (Connected to GND)
55	ASDACK	I	Bit clock input pin. (Connected to GND)
56	ASDFIN	I	L/R channel data input pin. (Connected to GND)
57	LRSY	O	L/R clock output pin. (Not connected)
58	DATACK	O	Bit clock output pin. (Not connected)
59	DATA	O	L/R channel data output pin. (Not connected)
60	16M	O	16.9344MHz output pin. (Not connected)
61	SFSY	O	Subcode frame synchronization signal output pin. This signal falls when the subcode is in the standby state. (Not connected)
62	SBSY	O	Subcode clock synchronization signal output pin. (Not connected)
63	PW	O	Subcode P, Q, R, S, T, U and W output pin. (Not connected)
64	SBCK	I	Subcode readout clock input pin. (Connected to GND)
65	CE	I	Chip enable signal input pin.
66	CL	I	Data transfer clock input pin.
67	DI	I	Data input pin.
68	DO	O	Data output pin.
69	INT	O	Interruption signal output pin. (Not connected)
70	WRQ	O	Interruption signal output pin.
71	RES	I	Reset input pin. This pin must be set low briefly after power is first applied.
72	DRF	O	Focus ON detect pin.
73	VDD5V	—	Microprocessor interface power supply.
74	VSS	—	Digital ground pin.
75	CONT6	I/O	General-purpose input/output pin 6.
76	CONT7	I/O	General-purpose input/output pin 7.
77	V/P	O	Rough servo/phase control automatic switching monitor output pin. “H” for rough servo and “L” for phase servo. (Not connected)

Pin No.	Pin Name	I/O	Description
78	FSEQ	O	Synchronization signal detection output pin. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not connected)
79	DEFECT	I/O	Defect pin. Which becomes an input pin after reset and can be controlled externally. This becomes the defect monitor pin under control by command. (Not connected)
80	EFMO	O	EFM signal output pin. (Not connected)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

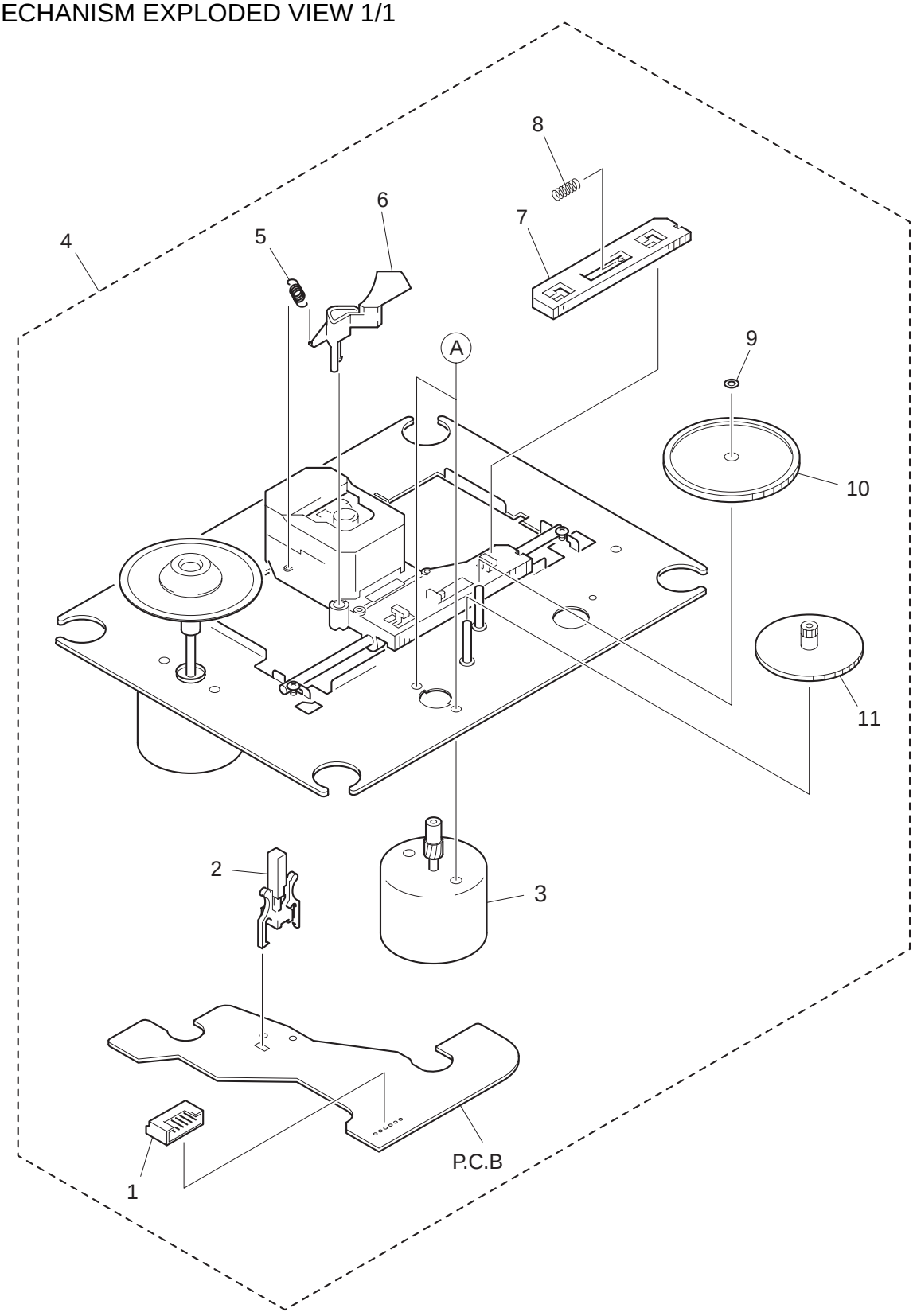
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-225-010		BELT,SQ1.0-63.3
2	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N <EXCEPT ZD8RN1DM,ZD8RNDM>
2	84-ZG1-672-010		F-CABLE,5P 1.25 210MM WHITE N <ZD8RN1DM,ZD8RNDM>
3	87-045-364-010		MOTOR(BCH3B14)
4	84-ZG1-267-010		PULLEY,LOAD MO 8 <EXCEPT YKZD8RDF,ZD8RD>
4	81-ZG1-212-010		PULLY,LOAD MO<YKZD8RDF,ZD8RD>
5	84-ZG1-238-010		GEAR,WORM N
6	84-ZG1-248-010		SPR-C,WORM
7	84-ZG1-239-210		PULLY,WORM N
8	84-ZG1-008-210		TRAY,NO3<ZD8RD>
8	8A-ZG1-001-010		TRAY,NO3 BLU<EXCEPT ZD8RD>
9	8A-ZG1-210-010		HLDR,MAGNET 23<YKZD8RDF>
9	84-ZG1-243-210		HLDR,MAGNET N(J) <YZD8RDJM,ZD8RMDJM,YZD8RMDJM>
9	84-ZG1-289-010		HLDR,MAGNET NAT<ZD8RNDM>
9	81-ZG1-277-310		HLDR,MAGNET N <ZD8RN1DM,ZD8RDM,YZD8RDM,ZD8RD>
10	84-ZG1-259-010		SPR-P,WORM
11	84-ZG1-221-010		GEAR,MAIN TT<YKZD8RDF>
11	84-ZG1-269-010		GEAR,MAIN TT 4<EXCEPT YKZD8RDF>
12	84-ZG1-224-010		LEVER,TT<EXCEPT ZD8RNDM>
12	84-ZG1-288-010		LEVER,TT NAT<ZD8RNDM>
13	8A-ZG1-002-010		TURN TABLE,NO1 BLU<EXCEPT ZD8RD>
13	84-ZG1-005-210		TURNTABLE,NO1(*)<ZD8RD>
14	81-ZG1-239-010		S-SCREW,TT
15	8A-ZG1-201-010		S-SCREW,MECH 880
16	85-NFT-611-110		FF-CABLE 16P-1.0
17	84-ZG1-299-210		HLDR,MECHA NO3<EXCEPT ZD8RNDM>
17	8A-ZG1-203-010		HLDR,MECHA NO3 NAT<ZD8RNDM>
18	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
19	84-ZG1-211-010		SPR-E CAM S
20	84-ZG1-285-010		PLATE,MAGNET BLK<ZD8RN1DM>
20	81-ZG1-255-110		PLATE,MAGNET MK2<EXCEPT ZD8RN1DM>
21	83-ZG3-604-010		RING,MAG 2
22	83-ZG3-213-010		LVR,SW
23	84-ZG1-208-210		LEVER,CAM<YKZD8RDF>
23	84-ZG1-266-010		LEVER,CAN 8<EXCEPT YKZD8RDF>
24	84-ZG1-205-210		GEAR,TRAY (*)
25	81-ZG1-291-110		GEAR,TRAY RELAY NO3
26	84-ZG1-206-110		GEAR,RELAY<YKZD8RDF>
26	84-ZG1-274-010		GEAR,RELAY 8<EXCEPT YKZD8RDF>
27	84-ZG1-207-010		PULLEY,RELAY
28	84-ZG1-209-010		BELT,SQ1.8-117.7
29	84-ZG1-203-410		GEAR,MAIN CAM<ZD8RNDM>
29	84-ZG1-215-410		GEAR,MAIN CAM BLU<EXCEPT ZD8RNDM>
30	84-ZG1-011-010		REFLECTOR,CD <EXCEPT ZD8RN1DM,ZD8RNDM>
31	84-ZG1-216-310		SLIDE,MECHA CAM YEL <EXCEPT ZD8RNDM>
31	84-ZG1-204-310		SLIDER,MECHA CAM<ZD8RNDM>
32	84-ZG1-286-010		CHAS,MECHA NAT<ZD8RNDM>
32	84-ZG1-201-410		CHAS,MECHA<EXCEPT ZD8RNDM>
33	M8-ZZK-C90-070		KSM-880CAB
A	87-067-703-010		TAPPING SCREW, BVT2+3-10 <EXCEPT ZD8RN1DM,ZD8RNDM>
B	87-067-981-010		BVT2+3-6 BLK
C	87-251-070-410		U+2.6-3

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	91-564-722-110		CONN,PIN 6P
2	91-572-085-110		LEAF SWITCH
3	9X-264-655-010		SL MOTORR ASSY
4	M8-ZZK-C90-070		KSM-880CAB
5	92-647-416-020		SPRING EXTENSION
6	92-647-595-020		SHUTTER B
7	92-647-732-010		NS SLIDE RACK
8	92-647-742-010		SPRING COMPRESSION
9	93-321-813-110		POLI WASHER
10	92-647-407-010		GEAR A
11	92-647-408-020		GEAR B
A	93-713-786-510		SCREW,+P2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

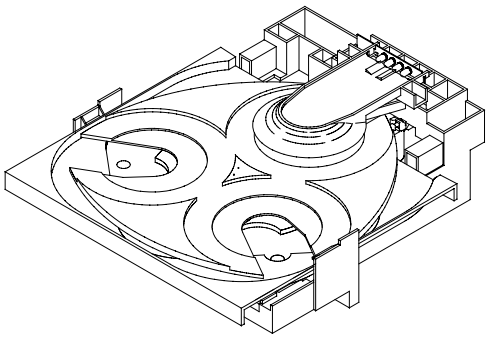
アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2–11, IKENOHATA 1–CHOME, TAITO-KU, TOKYO 110-8710, JAPAN TEL:03 (3827) 3111

0251431
Printed in Singapore

aiwa SERVICE

AZG-1

English



SERVICE MANUAL

CD MECHANISM

BASIC CD MECHANISM : KSM-880CAB

TYPE
Z8RMDJM

aiwa

S/M Code No. 09-001-335-3N2

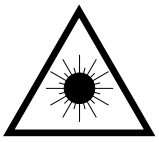
DATA

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

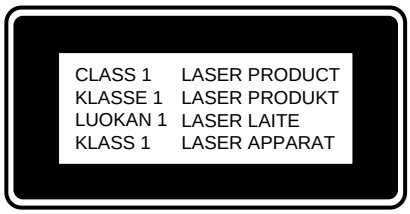
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

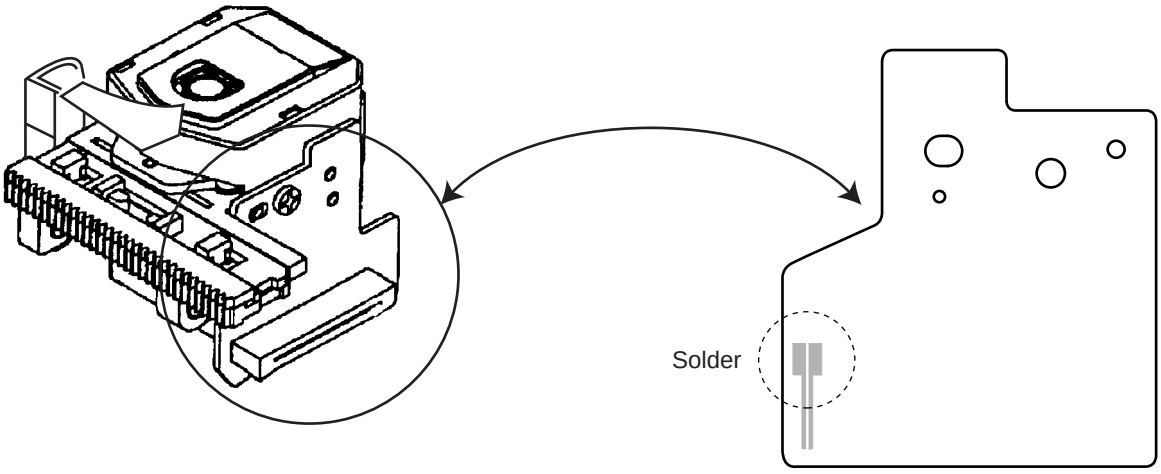
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

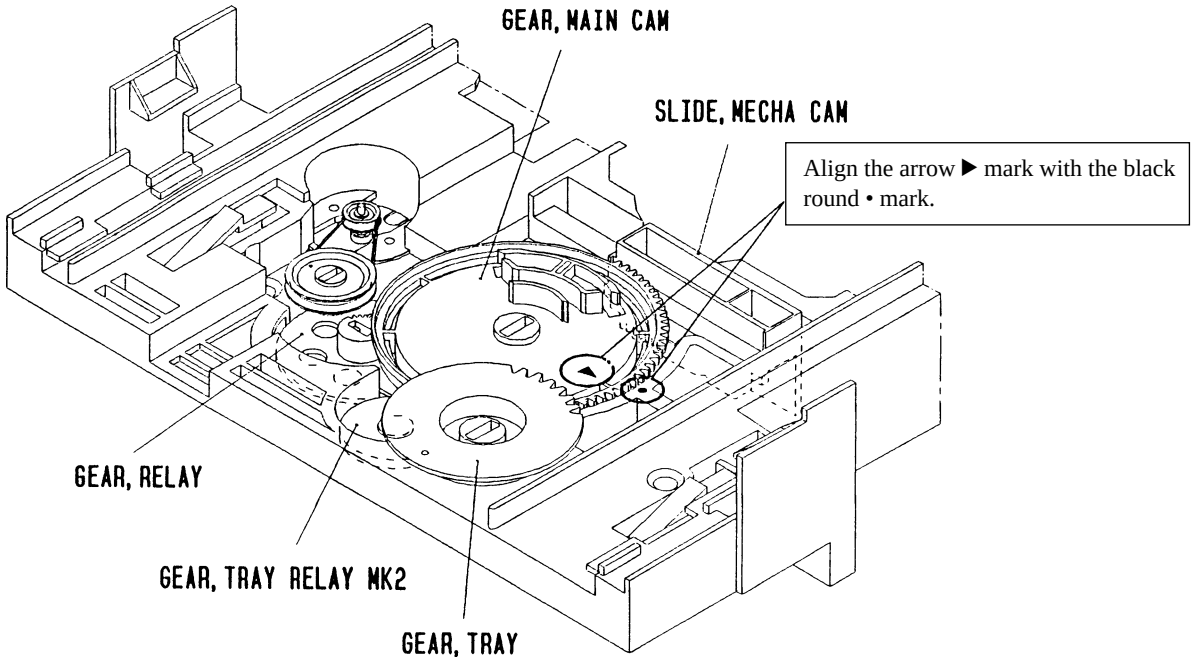
1) After the connection, remove solder shown in the figure below.



How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

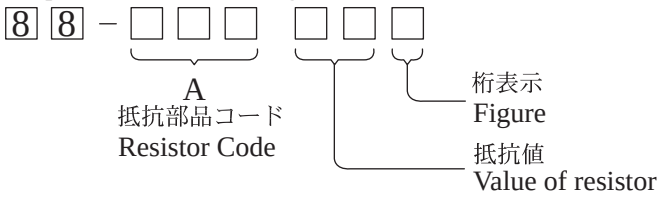
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-446-010		C-IC,LA9241ML
	87-A21-319-010		C-IC,LC78622NE
	87-A20-445-010		IC,BA5936
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR
	87-026-295-080		TR,DTC144TK
	87-A30-087-080		C-FET,2SK2158
	87-026-237-080		CHIP-TR,DTC124XK
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-020-465-080		DIODE,1SS133 (110MA)
	87-020-331-080		CHIP-DIODE,DAN202K
	87-A40-337-080		ZENER,MTZJ 6.8B
	87-A40-313-080		C-DIODE,MC 2840
	87-A40-620-080		ZENER,MTZJ6.2A
3CD C.B			
C11	87-012-393-080		C-CAP,S 0.22-16 R K
C12	87-012-157-080		C-CAP,S 330P-50 CH
C13	87-016-369-080		C-CAP,S 0.033-25 B K
C14	87-A10-201-080		C-CAP,S0.33-16 KB
C15	87-010-213-080		C-CAP,S 0.015-50 B
C16	87-016-083-080		C-CAP,S 0.15-16 RK
C17	87-010-184-080		CHIP CAPACITOR 3300P(K)
C18	87-A11-177-080		C-CAP,S 0.15-16 K B
C19	87-010-992-080		C-CAP,S 0.047-25 B
C20	87-010-178-080		CHIP CAP 1000P
C21	87-012-393-080		C-CAP,S 0.22-16 R K
C22	87-016-083-080		C-CAP,S 0.15-16 RK
C23	87-010-197-080		CAP, CHIP 0.01 DM
C24	87-010-186-080		CAP,CHIP 4700P
C25	87-010-400-040		CAP,E 0.47-50
C26	87-010-322-080		C-CAP,S 100P-50 CH
C27	87-010-382-040		CAP,E 22-25 SME
C28	87-010-545-040		CAP,E 0.22-50 SME
C29	87-010-184-080		CHIP CAPACITOR 3300P(K)
C31	87-010-186-080		CAP,CHIP 4700P
C32	87-010-315-080		C-CAP,S 27P-50 CH
C33	87-016-081-080		C-CAP,S 0.1-16 RK
C35	87-010-196-080		CHIP CAPACITOR,0.1-25
C37	87-010-405-080		CAP, ELECT 10-50V
C38	87-010-263-080		CAP, ELECT 100-10V
C39	87-010-197-080		CAP, CHIP 0.01 DM
C40	87-010-401-080		CAP, ELECT 1-50V
C41	87-016-081-080		C-CAP,S 0.1-16 RK
C42	87-010-263-080		CAP, ELECT 100-10V
C43	87-010-197-080		CAP, CHIP 0.01 DM
C44	87-010-263-080		CAP, ELECT 100-10V
C46	87-010-196-080		CHIP CAPACITOR,0.1-25
C47	87-010-260-080		CAP, ELECT 47-25V
C48	87-010-196-080		CHIP CAPACITOR,0.1-25
C49	87-010-404-080		CAP, ELECT 4.7-50V
C50	87-010-197-080		CAP, CHIP 0.01 DM
C51	87-010-263-040		CAP,E 100-10
C52	87-012-156-080		C-CAP,S 220P-50 CH
C71	87-012-393-080		C-CAP,S 0.22-16 R K
C101	87-016-369-080		C-CAP,S 0.033-25 B K
C102	87-016-081-080		C-CAP,S 0.1-16 RK
C103	87-010-318-080		C-CAP,S 47P-50 CH
C104	87-012-154-080		C-CAP,S 150P-50 CH
C105	87-010-196-080		CHIP CAPACITOR,0.1-25
C109	87-010-197-080		CAP, CHIP 0.01 DM
C111	87-010-312-080		C-CAP,S 15P-50 CH
C112	87-010-154-080		CAP CHIP 10P
C113	87-010-178-080		CHIP CAP 1000P
C115	87-010-404-080		CAP, ELECT 4.7-50V
C116	87-010-196-080		CHIP CAPACITOR,0.1-25
C117	87-010-263-040		CAP,E 100-10
C118	87-010-178-080		CHIP CAP 1000P
C121	87-010-403-080		CAP, ELECT 3.3-50V
C122	87-010-403-080		CAP, ELECT 3.3-50V
C123	87-010-180-080		C-CER 1500P
C124	87-010-180-080		C-CER 1500P
C132	87-010-196-080		CHIP CAPACITOR,0.1-25
C135	87-010-314-080		C-CAP,S 22P-50V
C191	87-010-263-040		CAP,E 100-10
C192	87-010-178-080		CHIP CAP 1000P
C193	87-010-196-080		CHIP CAPACITOR,0.1-25
C201	87-010-196-080		CHIP CAPACITOR,0.1-25
C204	87-010-196-080		CHIP CAPACITOR,0.1-25
C205	87-010-196-080		CHIP CAPACITOR,0.1-25
C206	87-010-196-080		CHIP CAPACITOR,0.1-25
C207	87-010-196-080		CHIP CAPACITOR,0.1-25
C208	87-010-196-080		CHIP CAPACITOR,0.1-25
C211	87-010-405-040		CAP,E 10-50
C212	87-010-405-040		CAP,E 10-50
C213	87-010-196-080		CHIP CAPACITOR,0.1-25
C251	87-010-322-080		C-CAP,S 100P-50 CH
C252	87-010-322-080		C-CAP,S 100P-50 CH
C253	87-010-322-080		C-CAP,S 100P-50 CH
C281	87-010-382-040		CAP,E 22-25 SME
C401	87-A10-730-080		CAP,E 1000-16 SMG
C402	87-010-197-080		CAP, CHIP 0.01 DM
C403	87-010-196-080		CHIP CAPACITOR,0.1-25
C404	87-010-260-040		CAP,E 47-25 SME
C405	87-010-382-080		CAP, ELECT 22-25V
C421	87-010-382-080		CAP, ELECT 22-25V
C422	87-010-196-080		CHIP CAPACITOR,0.1-25
C901	87-010-260-080		CAP, ELECT 47-25V
C902	87-010-196-080		CHIP CAPACITOR,0.1-25
CN1	87-A60-429-010		CONN,16P H TOC-A
CN2	87-099-199-010		CONN,6P 6216 H
CN201	87-099-030-010		CONN,13P 6216H
CN203	87-099-212-010		CONN,5P 6216 V
CN204	84-ZG1-648-010		CONN ASSY,6P
CN501	87-A60-666-010		CONN,2P H 2MM JMT
FB501	87-A50-189-080		C-COIL,S BLM21B272S
L11	87-005-849-080		COIL,10UH(CECS)
L101	87-005-614-080		COIL 100UH LAV35 J
L102	87-005-602-080		COIL,10UH LAV35 J
LED901	87-A40-558-010		LED,SLZ-8128A-01-A
M201	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
SFR101	87-A90-787-080		SFR,100K H HOKU
SW201	87-036-109-010		SW,MICRO SPPB61
SW202	87-036-109-010		SW,MICRO SPPB61
X101	87-A70-046-010		VIB,XTAL 16.934MHZ
LED C.B			
LED301	87-A40-263-080		LED,SLH-56PCT31 GRN
LED302	87-A40-268-080		LED,SLH-56DCT31 ORN
LED303	87-A40-268-080		LED,SLH-56DCT31 ORN
LED304	87-A40-263-080		LED,SLH-56PCT31 GRN
T-T C.B			
C401	87-018-214-080		CAP TC U 0.1-50F
CON401	86-NFZ-675-010		CONN,5P H 6216-11H
M401	87-045-364-010		MOTOR(BCH3B14)
PS401	87-026-573-010		SNSR,PHOTO GP1S53V

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
MOTOR C.B							
PIN3	91-564-722-110		CONN,PIN 6P				
SW1	91-572-085-110		LEAF SWITCH				

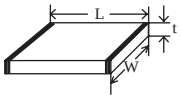
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

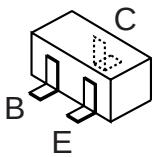
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

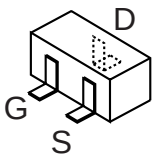
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



2SA1235F
2SC3052F
DTC124XK
DTC144TK

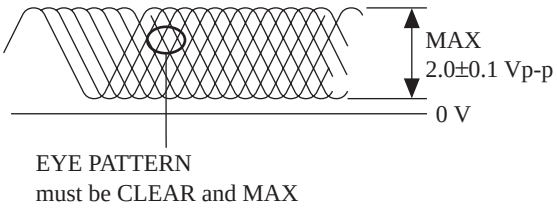
KTA1266GR



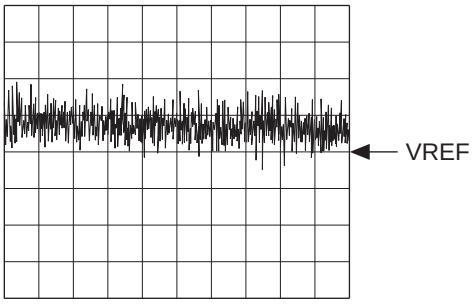
2SK2158

WAVE FORM

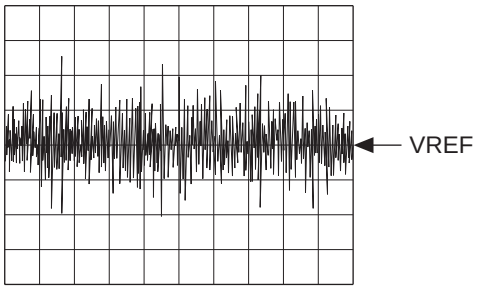
① IC11 Pin ㊶ (RFSH) VOLT/DIV: 0.5V
TIME/DIV: 1µS



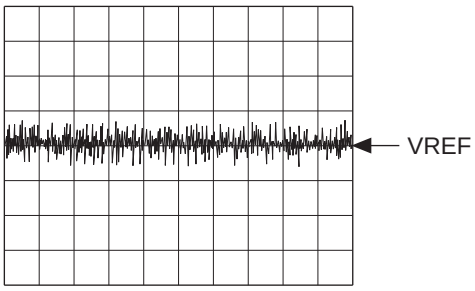
② IC11 Pin ⑯ (FD) VOLT/DIV: 100mV
TIME/DIV: 1mS



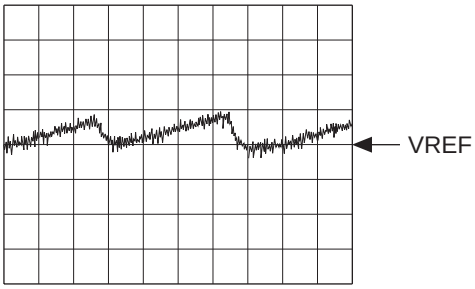
③ IC11 Pin ⑮ (TO) VOLT/DIV: 100mV
TIME/DIV: 1mS



④ IC11 Pin ㉗ (SPD) VOLT/DIV: 100mV
TIME/DIV: 1mS

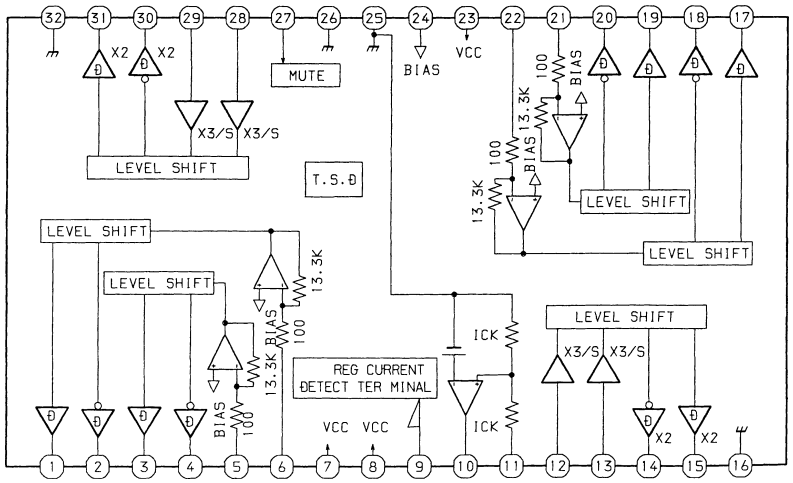


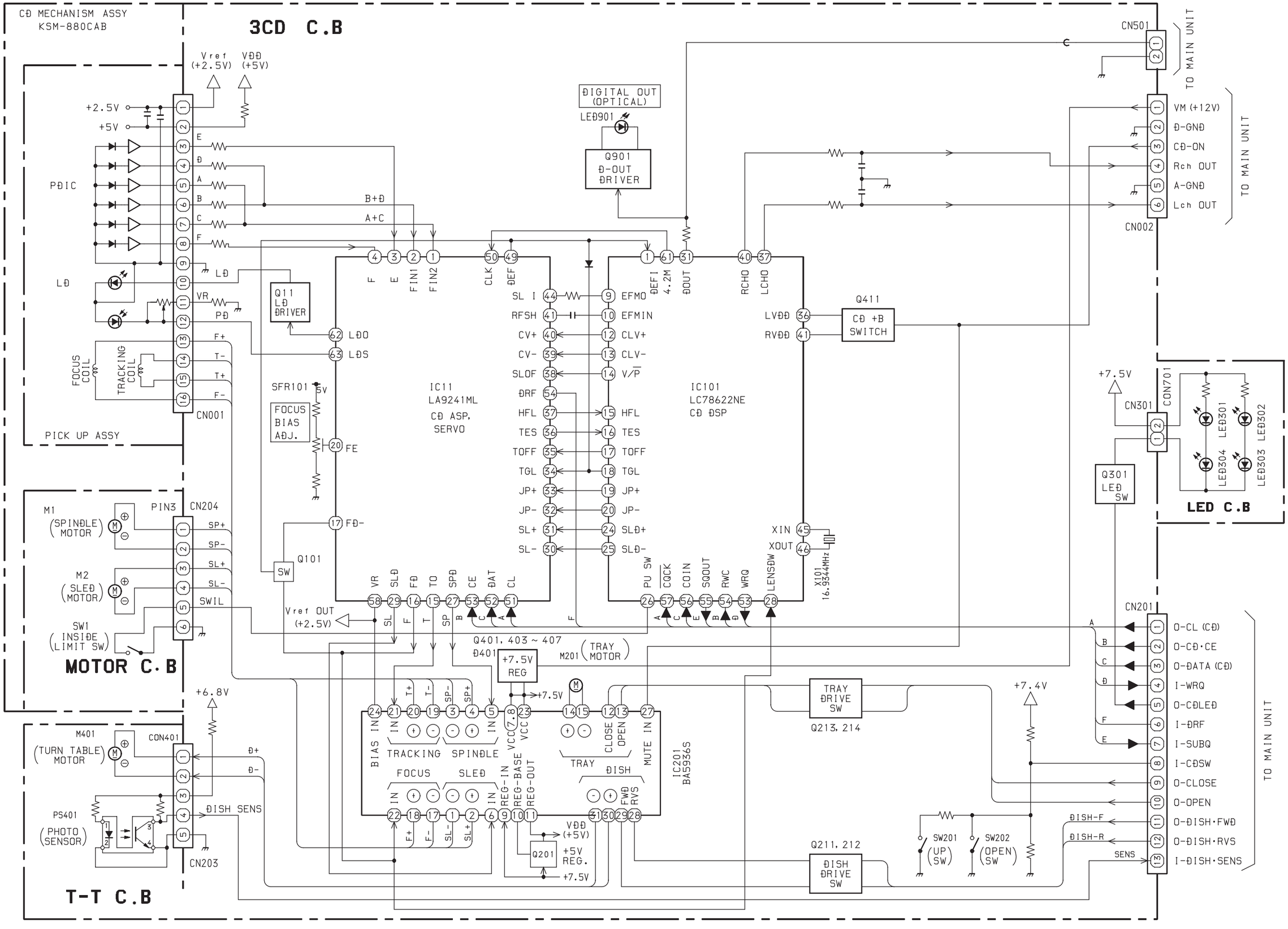
⑤ IC11 Pin ㉙ (SLD) VOLT/DIV: 200mV
TIME/DIV: 2S

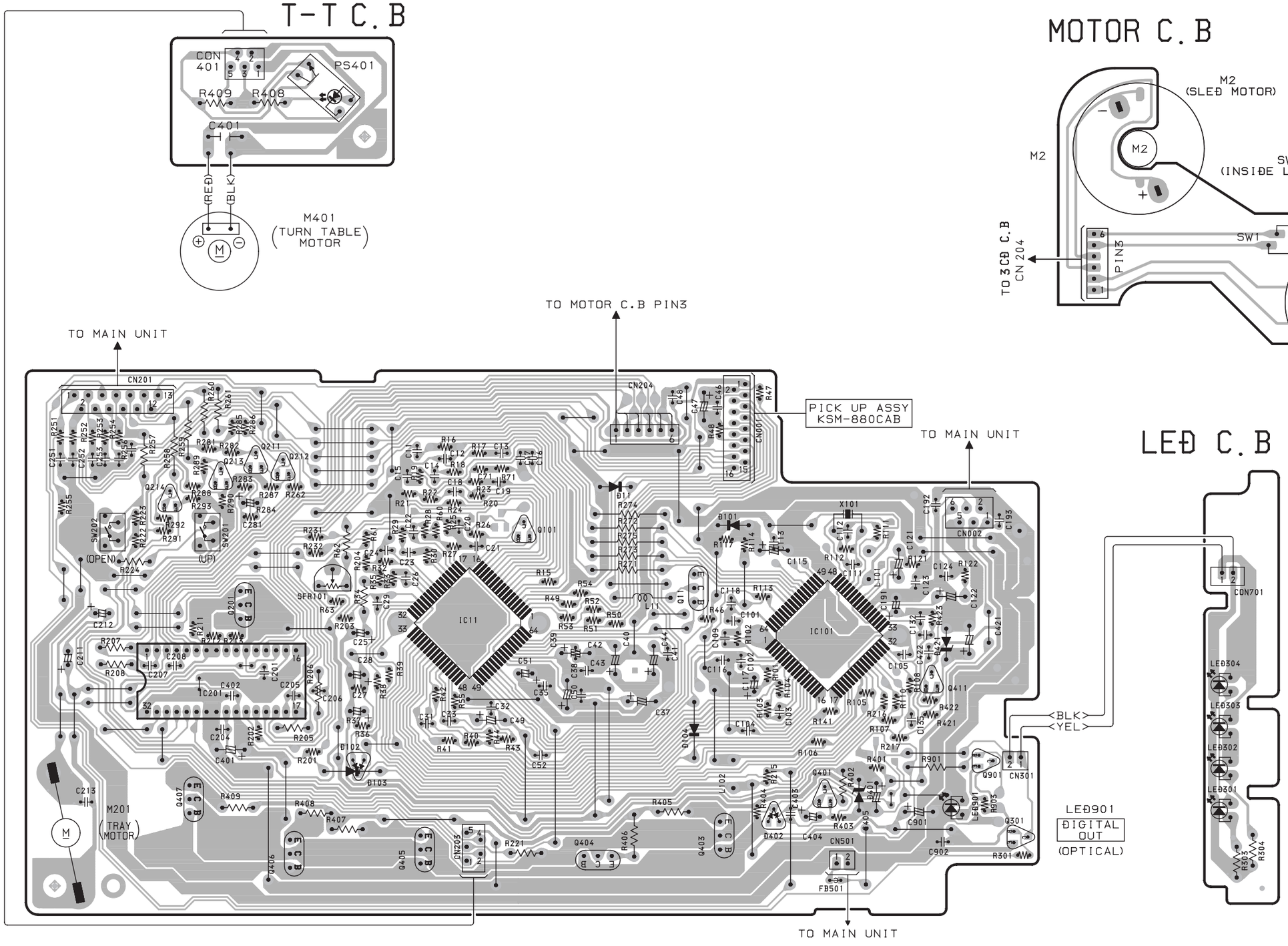


IC BLOCK DIAGRAM

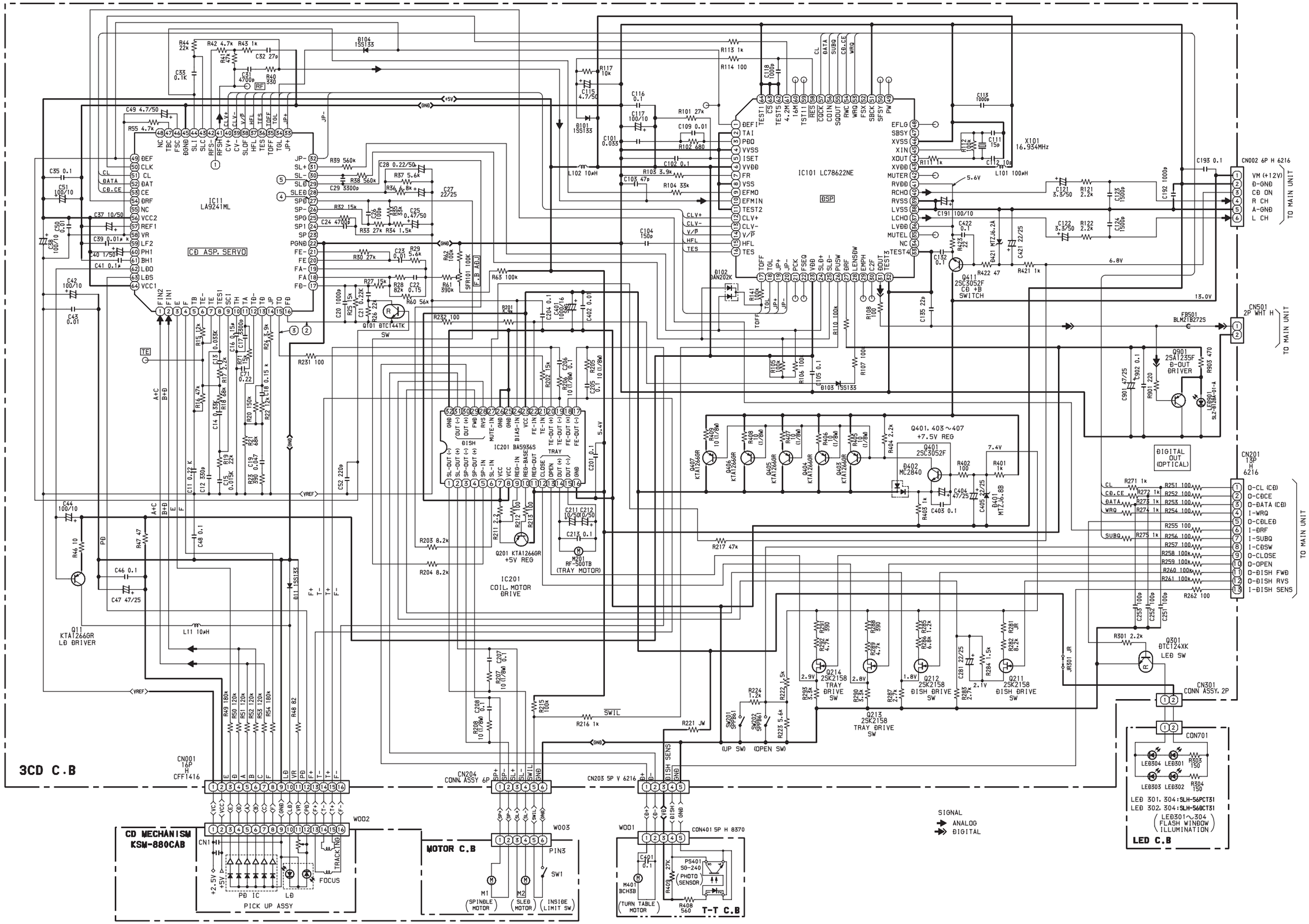
IC, BA5936S




CD MECHANISM ASSY
KSM-880CAB
3CD C.B
PICK UP ASSY
PDIC
LD
FOCUS COIL
TRACKING COIL
CN001
Vref (+2.5V)
VDD (+5V)
+2.5V
+5V
E
D
A
B
C
F
LD
VR
PD
F+
T-
T+
F-
B+D
A+C
Q11 LD DRIVER
SFR101
5V
FOCUS BIAS ADJ.
FE
FD-
Q101
SW
Vref OUT (+2.5V)
IC11
LA9241ML
CD ASP, SERVO
IC101
LC78622NE
CD DSP
DIGITAL OUT (OPTICAL)
LED901
Q901 D-OUT DRIVER
CN501
TO MAIN UNIT
VM (+12V)
D-GND
CD-ON
Rch OUT
A-GND
Lch OUT
CN002
Q411
CD +B SWITCH
+7.5V
CN301
CON701
Q301 LED SW
LED304 LED301 LED303 LED302
LED C.B
M1 (SPINDLE MOTOR)
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
PIN3
CN204
SP+
SP-
SL+
SL-
SWIL
MOTOR C.B
Q401, 403 ~ 407
D401
+7.5V REG
M201 (TRAY MOTOR)
TRAY DRIVE SW
Q213, 214
+6.8V
+7.4V
M401 (TURN TABLE MOTOR)
CON401
D+
D-
PS401 (PHOTO SENSOR)
DISH SENS
CN203
T-T C.B
TRACKING
SPINDLE
FOCUS
SLED
TRAY
DISH
IC201
BA5936S
VDD (+5V)
Q201
+5V REG.
+7.5V
Q211, 212
DISH DRIVE SW
SW201 (UP SW)
SW202 (OPEN SW)
CN201
O-CL (CD)
O-CD·CE
O-DATA (CD)
I-WRQ
O-CDLED
I-DRF
I-SUBQ
I-CDSW
O-CLOSE
O-OPEN
O-DISH·FWD
O-DISH·RVS
I-DISH·SENS
DISH-F
DISH-R
SENS
X101
16.9344MHz


T-T C.B
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE) MOTOR
MOTOR C.B
M2
(SLED MOTOR)
M2
SW1
(INSIDE LIMIT SW)
M1
(SPINDLE MOTOR)
SW1
PIN3
TO 3CD C.B CN 204
M1
TO MOTOR C.B PIN3
TO MAIN UNIT
CN201
CN204
PICK UP ASSY KSM-880CAB
TO MAIN UNIT
LED C.B
IC11
IC101
X101
CN002
CON701
LED304
LED303
LED302
LED301
SW202
(OPEN)
SW201
(UP)
SFR101
M201
(TRAY MOTOR)
CN205
CN501
FB501
CN001
CN301
Q901
LED901
R903
Q301
R301
LED901
DIGITAL OUT
(OPTICAL)
BLK
YEL
TO MAIN UNIT

3CD C.B


IC11 LA9241ML
CD ASP. SERVO
IC101 LC78622NE
DSP
IC201 BA5936S
TRAY
DISH
IC201 COIL MOTOR DRIVE
X101 16.934MHz
3CD C.B
CD MECHANISM KSM-880CAB
PICK UP ASSY
MOTOR C.B
T-T C.B
LED C.B
CN002 6P H 6216
TO MAIN UNIT
CN501 2P WHT H
CN201 13P H 6216
CN301 CONN ASSY. 2P
CN001 16P H CFF1416
CN204 CONN ASSY 6P
CN203 5P V 6216
CN401 5P H 8370
CON701
Q401, 403~407 +7.5V REG
Q201 KTA1266GR +5V REG
Q11 KTA1266GR LD DRIVER
Q214 2SK2158 TRAY DRIVE SW
Q213 2SK2158 TRAY DRIVE SW
Q212 2SK2158 DISH DRIVE SW
Q211 2SK2158 DISH DRIVE SW
Q411 2SC3052F CD +B SWITCH
Q901 2SA1235F D-OUT DRIVER
Q301 DTC124XK LED SW
Q402 MC2840
Q401 2SC3052F
M201 RF-500TB (TRAY MOTOR)
M401 BCH5B (TURN TABLE MOTOR)
M1 (SPINDLE MOTOR)
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
PS401 SG-240 (PHOTO SENSOR)
PD IC
LD
FOCUS
TRACKING
SW
(UP SW)
(OPEN SW)
DIGITAL OUT (OPTICAL)
SIGNAL
ANALOG
DIGITAL
LED 301, 304: SLH-56PCT31
LED 302, 304: SLH-56BCT31
(LED301~304 FLASH WINDOW ILLUMINATION)
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
5.6V
6.8V
13.0V
7.4V
2.9V
2.8V
1.8V
2.1V
+5V
GND
VREF

TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

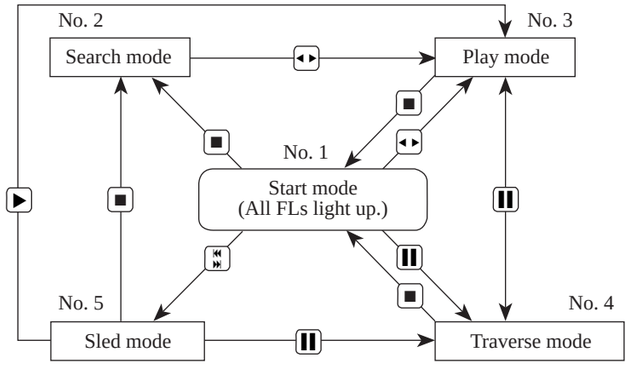
2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	• Test mode is activated. • CD block power is ON.	• FL display check (All displays light.)
Search mode No.2	■ key		• Laser diode turns always ON. • Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	• APC circuit check • Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.) FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀ ▶ key		• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check DRF
Traverse mode No.4	▌▌ key		• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮ key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ▌▌ status is active. If they are pressed, playback will not be possible after the ▌▌ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ▌▌ status, press the ■ key and return to the start mode (No.1).
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

IC DESCRIPTION

IC, LC78622NE

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLV–	O	Disc motor control output. Three level output is possible using command.	
14	V/$\overline{P}$	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP–	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24	SLD+	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
25	SLD-	I/O		
26	PUSW	I/O		
27	DRF	I/O		
28	LENSDW	I/O		
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

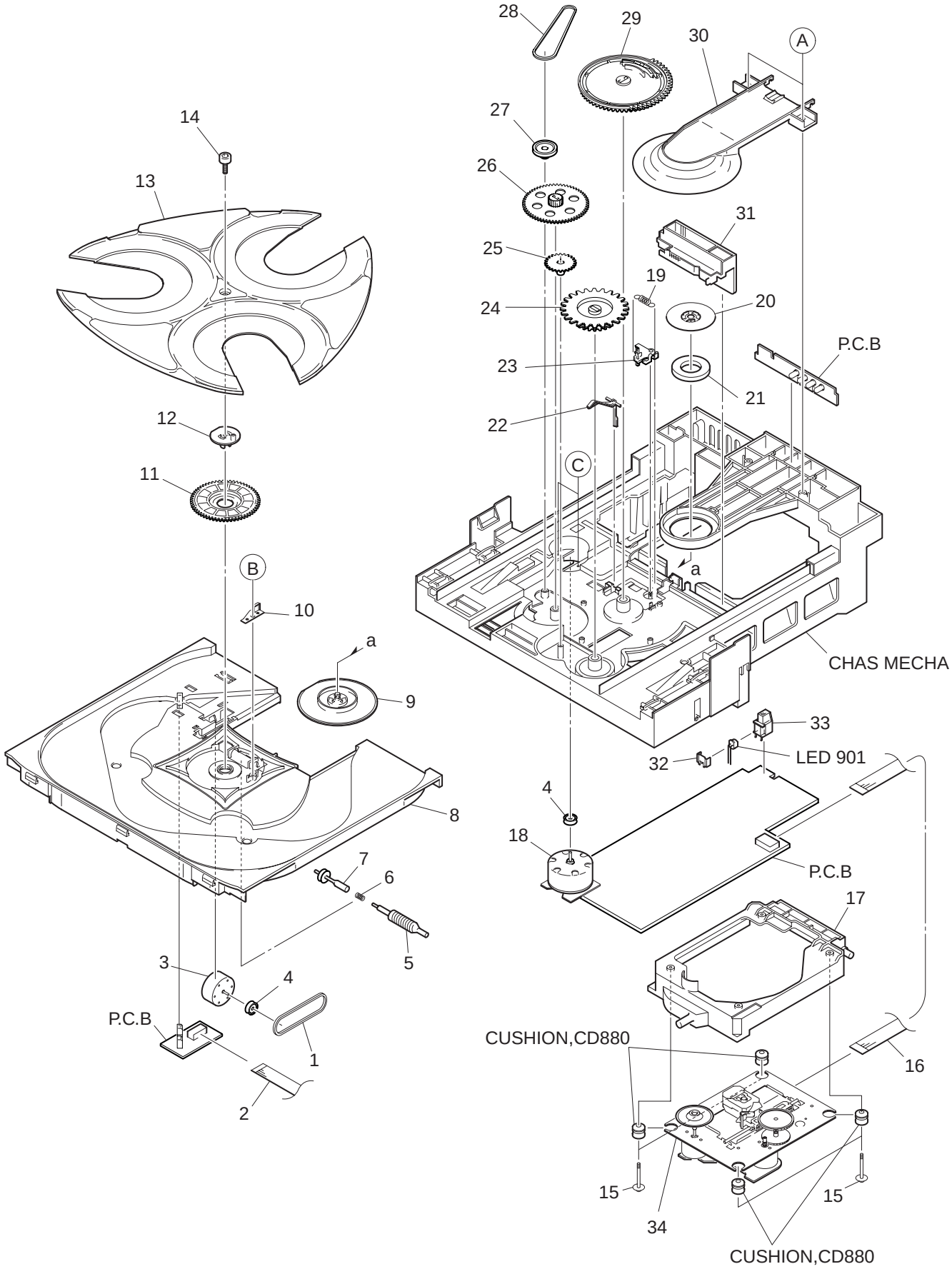
Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES “Track Error Sense” comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	PGND	—	Analog signal GND.
23	SP	—	No connection.
24	SP1	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	“High Frequency Level” is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSH	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	“Slice Level Control” is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	“Tracking Balance Control” EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	“Detect RF” RF level detector output.
55	NC	I	No connection.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REF1	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDO	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

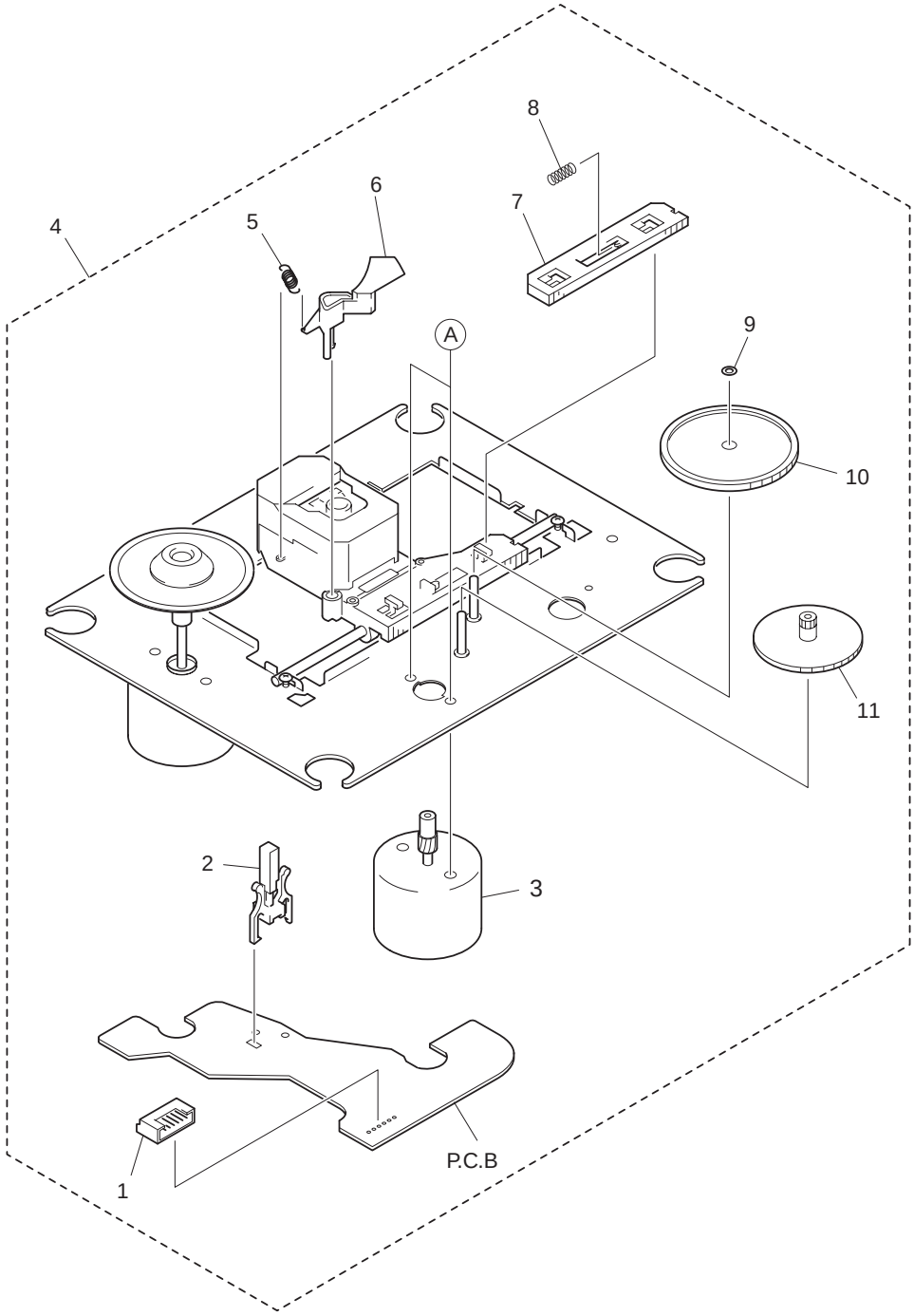
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-225-010		BELT,SQ1.0-63.3
2	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N
3	87-045-364-010		MOTOR(BCH3B14)
4	84-ZG1-267-010		PULLEY,LOAD MO 8
5	84-ZG1-238-010		GEAR,WORM N
6	84-ZG1-248-010		SPR-C,WORM
7	84-ZG1-239-210		PULLY,WORM N
8	84-ZG1-008-210		TRAY,NO3
9	84-ZG1-243-210		HLDR,MAGNET N(J)
10	84-ZG1-259-010		SPR-P,WORM
11	84-ZG1-269-010		GEAR,MAIN TT 4
12	84-ZG1-224-010		LEVER,TT
13	84-ZG1-005-210		TURNTABLE,NO1(*)
14	81-ZG1-239-010		S-SCREW,TT
15	8A-ZG1-201-010		S-SCREW,MECH 880
16	85-NFT-611-110		FF-CABLE 16P-1.0
17	84-ZG1-299-210		HLDR,MECHA NO3
18	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
19	84-ZG1-211-010		SPR-E CAM S
20	81-ZG1-255-110		PLATE,MAGNET MK2
21	83-ZG3-604-010		RING,MAG 2
22	83-ZG3-213-010		LVR,SW
23	84-ZG1-266-010		LEVER,CAN 8
24	84-ZG1-205-210		GEAR,TRAY (*)
25	81-ZG1-291-110		GEAR,TRAY RELAY NO3
26	84-ZG1-274-010		GEAR,RELAY 8
27	84-ZG1-207-010		PULLEY,RELAY
28	84-ZG1-209-010		BELT,SQ1.8-117.7
29	84-ZG1-215-410		GEAR,MAIN CAM BLU
30	84-ZG1-011-010		REFLECTOR,CD
31	84-ZG1-216-310		SLIDE,MECHA CAM YEL
32	84-ZG1-261-010		LID,OPTICAL
33	84-ZG1-244-310		CABI,OPTICAL
34	M8-ZZK-C90-070		KSM-880CAB
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-067-981-010		BVT2+3-6 BLK
C	87-251-070-410		U+2.6-3

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	91-564-722-110		CONN,PIN 6P
2	91-572-085-110		LEAF SWITCH
3	9X-264-655-010		SL MOTORR ASSY
4	M8-ZZK-C90-070		KSM-880CAB
5	92-647-416-020		SPRING EXTENSION
6	92-647-595-020		SHUTTER B
7	92-647-732-010		NS SLIDE RACK
8	92-647-742-010		SPRING COMPRESSION
9	93-321-813-110		POLI WASHER
10	92-647-407-010		GEAR A
11	92-647-408-020		GEAR B
A	93-713-786-510		SCREW,+P2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110-8710, JAPAN TEL:03 (3827) 3111

0251431
Printed in Singapore